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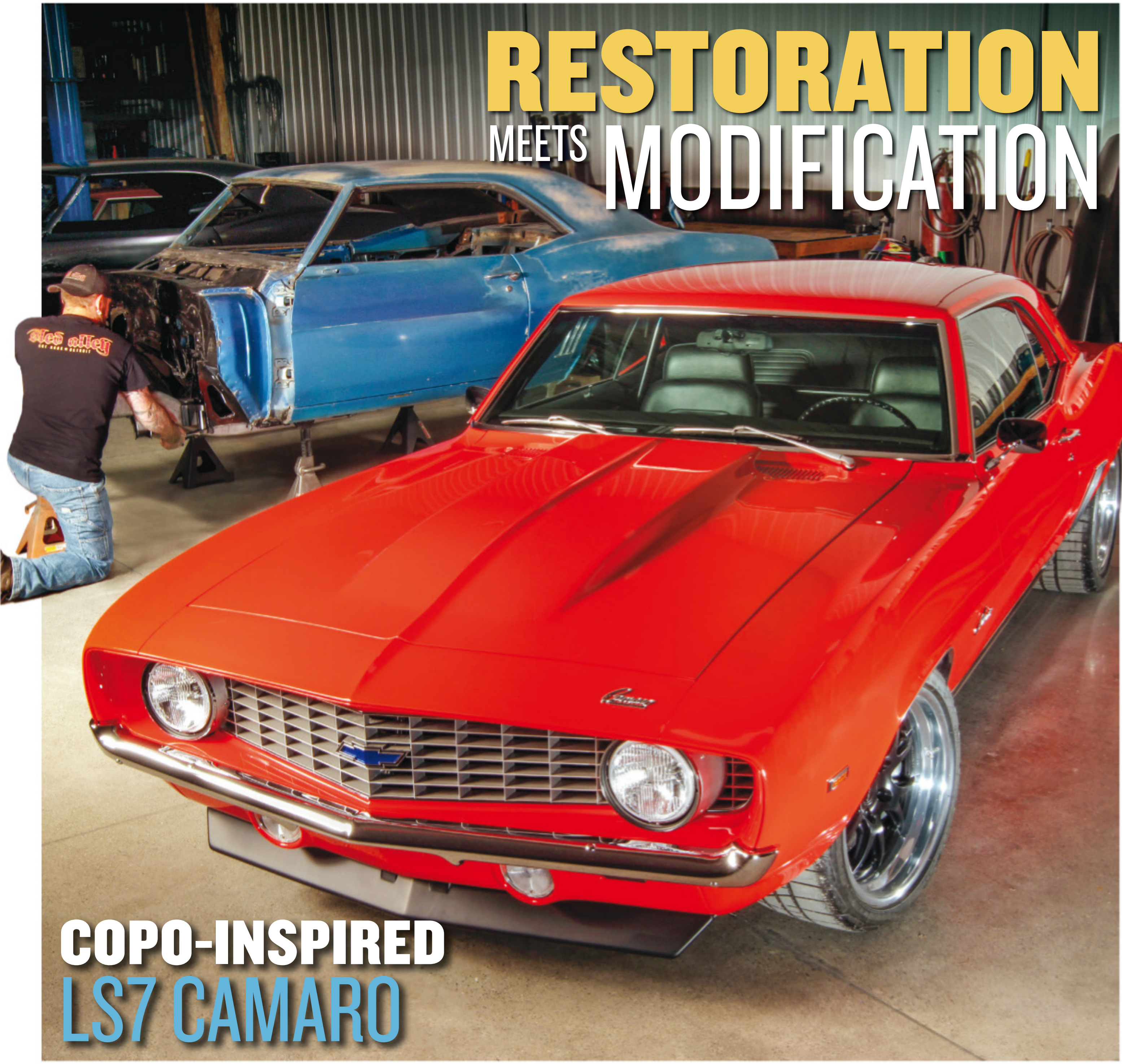

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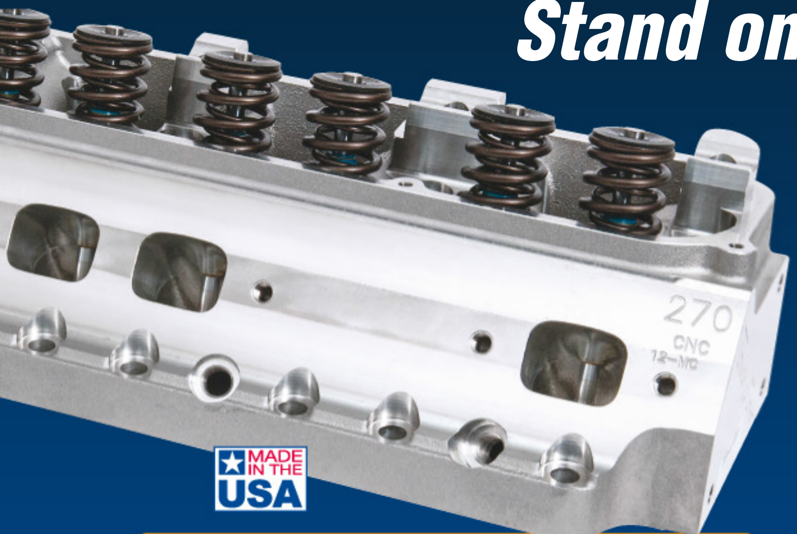

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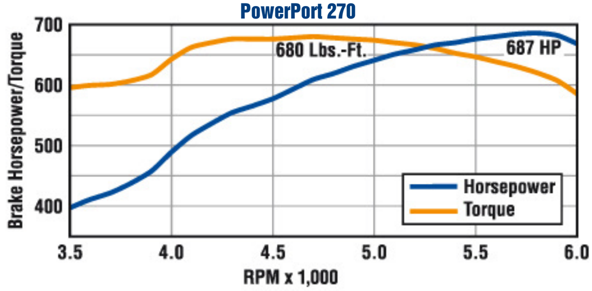

Test Engine: 10.15:1 compression Mopar 505 c.i.d. with Trick Flow PowerPort® 270 cylinder heads (TFS-61617802-C01), Trick Flow Track Max® hydraulic roller camshaft (TFS-61602003), Trick Flow retro-fit hydraulic roller lifters (TFS-21400011), Harland Sharp 1.6 ratio shaft mount roller rocker arms (CSP-S70016KE), port matched Trick Flow Track Heat® intake manifold (TFS-61600113), 950 cfm carburetor, Trick Flow billet aluminum carburetor spacer (TFS-2141501B), 93 octane pump gas, Hooker headers with 2" primaries, 3½" dual exhaust with Flowmaster mufflers.

Airflow Results
PowerPort 270

Lift Value	Intake Flow CFM	Exhaust Flow CFM
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.200"	154	130
.300"	230	186
.400"	288	222
.500"	322	243
.600"	343	253
.700"	352	262

Tests conducted at 28" of water (pressure).
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CONTENTS

VOLUME 20 • ISSUE 11• #240

22

PERSPECTIVE

06 TERRY McGEAN
10 BACKFIRE
72 JIM McGOWAN

FEATURES

08 PRODUCTION LINE
12 MODIFIED: 1969 Chevrolet Camaro
22 STOCK: 1971 Dodge Super Bee
28 MODIFIED: 1964 Ford Galaxie
34 STOCK: 1968 Chevrolet SS 427

34

44

MARKETPLACE

62 AUCTION ACTION
68 AUCTION NEWS
70 HEMMINGSAUCTIONS.COM

TECH

44 TECH: 1970 Mustang One-Piece Floor Pan Install
54 ASK RAY
56 SWAP MEET
58 GEAR
60 THE GOODS

SPOTLIGHT: Restoration

ON THE COVER: Contributor Barry Kluczyk went to Matt Gurjack's Sled Alley Hot Rods in Detroit to photograph Tom Tomlinson's restomod '69 Camaro.

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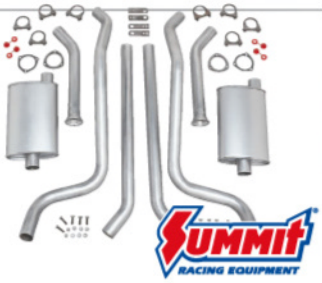

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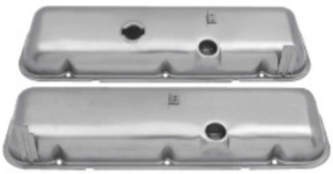

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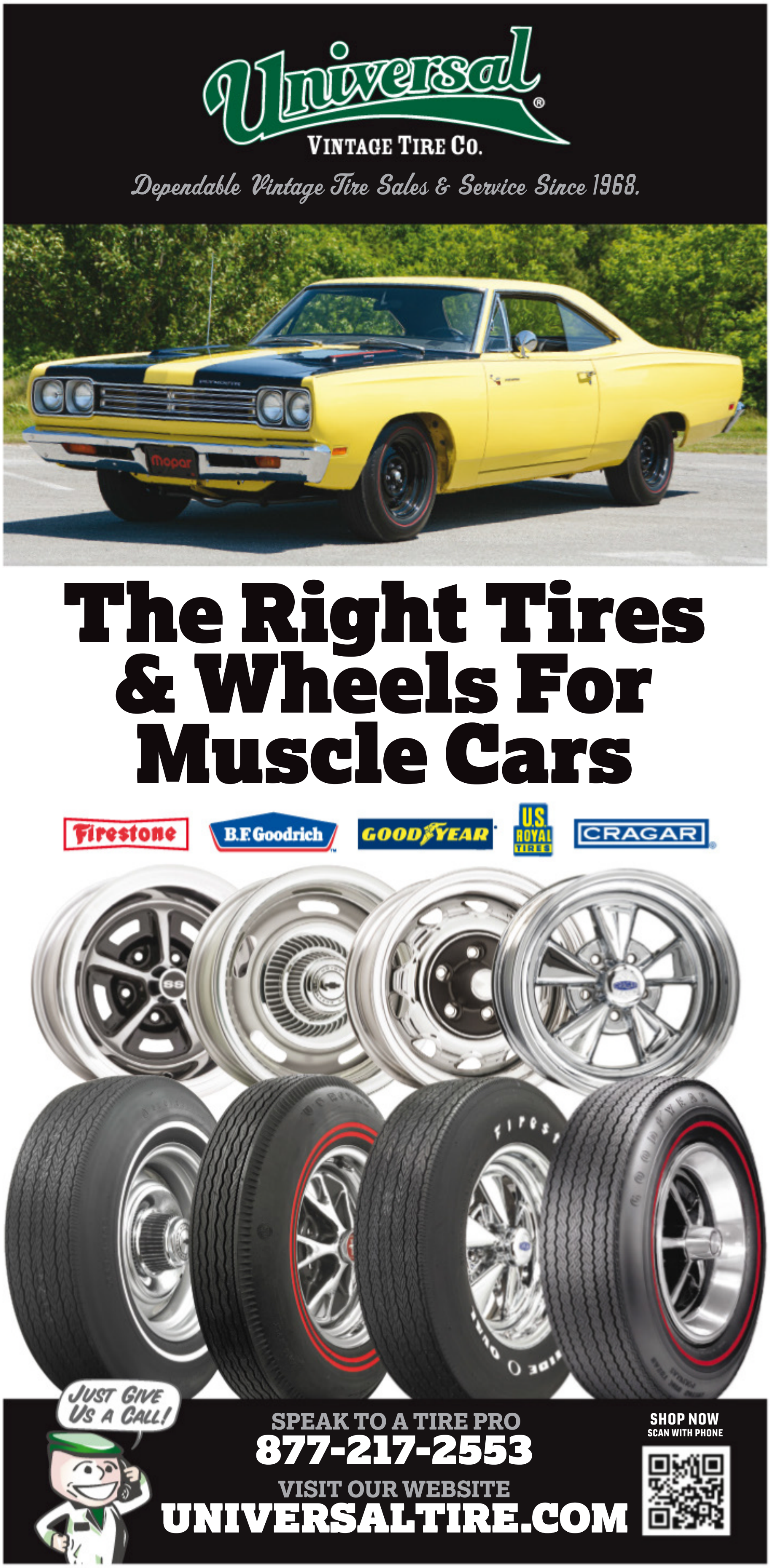
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ISSN# 1550-0691 • www.hemmings.com
Published monthly by Hemmings • 222 Main St., Bennington, VT 05201

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Mixed Disciplines

Several years ago, I had the idea to build a car from the muscle era to use for autocrossing and maybe some road course events. The inspiration came from growing trends that saw classic muscle being set up for those types of competitions, something that was gaining steam rapidly. Performance driving that involved turning hadn't been a priority for American cars of the '60s and '70s, save perhaps for Corvettes and certain Mustangs and Camaros, but interest in improving the handling of all muscle cars was on the rise in the late '90s.

This trend picked up the term "Pro Touring" from one of its most visible developers, Mark Stielow, who was then a young engineer at General Motors. He'd built a '69 Camaro to go head-to-head with newer, more sophisticated machinery in *Car and Driver* magazine's One Lap of America event and went on to build a series of increasingly capable first-gen Camaros, often utilizing performance technology and hardware from the whatever the latest Corvettes and Camaros were highlighting.

Stielow didn't build the Camaro on this month's cover, but contributor Barry Kluczyk included some interview insights from him in his story, since the car was built in the same vein as some of Stielow's own. That influence had spread back in the '90s in part because Stielow had connected with then-editor of *Hot Rod* magazine (and occasional *HMM* contributor) Jeff Smith to feature the One Lap Camaro and its improvements.

That Camaro, and others that followed from Stielow, seemed to inspire a lot of classic muscle fans to consider doing similar things to their own cars, though for a time, many of the trend's emulators appeared more interested in adhering to a master parts list rather than genuinely preparing their muscle cars for track use. Big brakes, trick suspension components, 16-, 17-, and then 18-inch wheel/tire combos, all featured as requisite items, along with some sort of overdrive transmission and of course, an infusion of power.

The spec sheets for those cars always looked impressive, but their actual capabilities were questionable since most had never turned a tire on anything but a show field. That began to change when the Optima Ultimate Street Car Invitational was launched in 2008 immediately following that year's SEMA show. This event was aimed squarely at Pro-Touring-style muscle cars (and trucks) and provided a venue to post numbers from an autocross course and a road course, while also requiring contestants to complete a road tour. The idea was to call out builders of SEMA show display vehicles to see if their creations could perform as claimed. It gained a lot of attention and turned into a series that's still running today.

While these facets of the muscle world were developing, the "restomod" movement was also taking off. The term seemed to start in the vintage Mustang sect, referring to cars that appeared to be essentially stock, but which had been upgraded for better road manners, performance, and comfort. It spread to other groups and evolved to point where it now covers a broad array of modified vehicles.

During the past several years, I've noticed this trend is even having an impact on some of the people who have been active in the muscle car restoration world for a long time. But rather than leading those people away from original-spec projects, the restomod influence is being embraced as a sort of occasional alternative, one that encourages putting on lots of road miles—something high-level restorations rarely see today. For some of those restoration veterans, a restomod is a fun diversion, waiting in the wings to be enjoyed more casually during breaks from work on high-level factory-correct projects.

I think this merging of disciplines works in the pages of *HMM* as well. As much as we continue to marvel at factory rarities and highlight the quests taken to return some of them to absolute factory correctness, the desire to use performance cars for their intended purpose—and to make them better—remains a powerful force. Muscle car fans tend to be hot rodders at heart, and an appreciation for speed and competition still burns within many of us.

And so, the story on the '69 Camaro featured on this month's cover seemed a perfect way to highlight both restoration—an integral part of reviving 50-year-old classics no matter what their intended purpose—and the pursuit of performance modifications. Let us know what you've been working on and what you want to do with it now that summer is finally here. ■

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Compiled by Jeff Koch

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2024 RANGER RAPTOR

TWIN-TURBO OFF-ROAD TERROR IS LIGHTER AND CHEAPER THAN THE BRONCO IT SHARES PARTS WITH

In our drive of the EcoBoost Ford Raptor ("Production Line," July '22), we said, "…[w]e can't help but wonder what the suite of goodies seen here would feel like in Ford's Ranger—a truck that's 1,500 pounds lighter." We can stop wondering: The newly redesigned 2024 Ford Ranger is due in showrooms any minute and there's a heavy-breathing Raptor version available.

If you've been paying attention to the Bronco Raptor ("Production Line," Nov '22), then most of this will sound vaguely familiar as Bronco and Ranger share (or shared) plenty of bits we can't see. And those are the bits that make the Ranger Raptor of interest: Ford's newest desert hauler will feature a twin-turbo EcoBoost V-6, rated at 405 horsepower and 430 lb-ft of torque on command. That's a little less than the Bronco that shares the bulk of its guts, but at an estimated 5,350 pounds at the curb, that's about 700 fewer pounds than its Bronco sibling—okay, so we were using the previous Ranger's stats to thumbnail our fantasy Raptor. Despite marginally fewer ponies on tap, with similar gearing the Ranger Raptor should offer more seat-of-the-pants satisfaction.

An anti-lag system for the turbos will be available in Baja mode, keeping the turbos spooled for up to three seconds after you let off the gas, so that there is no interminable wait for the boost to come back up once you're through a corner and on to jumping the next wash. The iron engine block is infused with compacted graphite for additional strength. This engine is available only with a 10-speed SelectShift automatic, and there's also a two-speed transfer case with front and rear locking differentials.

A fully boxed frame underpins the newest Raptor, and all the suspension mounting points (including the Watts link/trailing-arm rear suspension) have been reinforced. Aluminum upper and lower control arms, 2.5-inch Fox Live Valve internal-bypass shocks, and roughly a gazillion drive modes (Tow/Haul, Sport, Slippery, Off-Road, Rock Crawl, Baja, and the ever-present Normal) tweak engine tuning, traction control, steering, throttle response, ABS, exhaust tone, suspension feel, and more. Tires are 33-inch BFGoodrich all-terrain KO3 rubber on 17-inch wheels with optional beadlock capability. It also has fun goodies like the Trail Turn Assist, as seen on the Bronco Raptor previously.

There's only one Ranger body style now: a four-door crew cab body and a five-foot cargo bed. Raptor's blistered fenders increase track by 3.5 inches and swell the body by 4.3 inches—not quite enough for the amber markers to warn oncoming traffic that you're wider than 80 inches overall. And it has all the toys—A/C, 360-degree cameras, a 12-inch screen in the dash, seats that keep you glued in place despite your desert-based derring-do. Base price: $58,555 before options and dealer markup (sorry, market adjustment), so about ten grand cheaper than the Bronco Raptor. ■

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BACKFIRE

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Letter of the Month: **Mom's 2+2**

Don Clar, a close friend of mine, informed me that he sent a letter talking about a car that is in my family. The car is a 1966 Pontiac 2+2 that my mom purchased new in 1966. Yes, we still have this car, and we still have my mother. I would love to share its unique story through the 56 years it has been in the family. This is my mom's jewel for sure! It was also the car that brought me home from the hospital. Not many people can say they came home in such a stylish car, let alone still own it. My father took care of the mechanics and maintenance for many years up until his health would no longer allow it. Today the car is housed in my barn with a few other treasures and comes out on a couple of occasions each summer. One of my mom's favorite things to do is come and buff up the shine on her beauty. She will take it to a couple local shows and cruise nights locally and take it out to meet her sisters for lunch. Her face lights up with a smile when she hears the roar of the 421 Tri-Power engine.

The older picture is dated September 1967, and was taken the day my mom bought the car. This summer we plan on going back to her childhood home and taking a time-lapsed picture 56 years later.

Dave Burbott
Via email

DYNO DOUBTERS?

From time to time, Ray Bohacz mentions the word "dyno" in his column, most recently in the May 2023 issue. This raises an interesting question. Over the years I have known hundreds of muscle car owners driving everything from T-buckets to C8 Corvettes. The vast majority are quite willing to part with thousands of dollars to improve the performance of their rides when something catches their eye. Yet I can count on one hand the number of these folks who have ever parted with a few hundred dollars to put their cars on a dyno, even just to establish a baseline, let alone for any tuning.

Why is that?

That's okay, of course—those owners can do as they choose. But I'm just surprised more folks don't take advantage of finding some relatively "free" horsepower that can usually be obtained with some dyno work and adjustments.

Any thoughts on the subject?

Karl Oesch
Mesa, Arizona

Karl, Ray may respond to you in his column, but in the meantime, we're going to offer some thoughts on the subject. You're right: Plenty of owners of specialty performance cars neglect to do this, and it is a surprise to watch some of them spend freely on upgrades but balk at the idea of spending a little more on a chassis dyno session, which often costs between $500 and $1,000, depending on the facility and services that are included. As you probably know, Ray is a big proponent of dyno time, as these sessions can be hugely helpful in determining how a car is running and where trouble spots may be lurking. Of course, this is the best way to address those issues—in a controlled environment with all the streaming real-time data a typical chassis dyno rig can provide. It's generally money well spent, yet it often seems a hard sell for many enthusiasts.

STICKLER FOR DETAIL

I am a purist. I call Chevy IIs, Chevy IIs—not Novas; I call Chevelles, Chevelles—not Malibus.

I have always enjoyed Jeff Koch's writing ever since I started reading *HMM* in the early 2000s. But in the current issue of *HMM*, Mr. Koch wrote a feature article on a restomodded 1967 Chevelle Malibu, and he kept referring to the car as a Malibu, as if that were the model designation. Never once in the whole article does the word "Chevelle" appear.

I was talking cars with a co-worker a few years ago, and he mentioned that his father had had a '75 Malibu when he was a kid. I corrected him, saying that the car was actually a Chevelle, and that the first year for the Chevrolet Malibu was 1978. He looked at me as if I had grown a second head, and insisted that the car was a Malibu, because there were "Malibu" nameplates right there on the fenders for all the world to see. He absolutely refused to believe me when I told him that the car was a Chevelle, and that it said Malibu on the fenders because the car was equipped with the Malibu option package.

I got a similar reaction from someone at our local cruise night when I told him that the first year for the Chevrolet Nova was 1969.

Maybe I need to grow thicker skin. Mr. Koch's refusal to refer to the subject car by its proper model designation caused me to stop reading the article and move on.

Aside from the above nits, I really enjoy reading all of Hemmings' publications.

Scott Huntington
Carleton Place, Ontario, Canada

Car enthusiasts are prone to using lingo and slang, and I think that bleeds over into the use of model names. The Nova name being used to describe all the 1962-'67 Chevy compacts is probably a good example — this has been going on for years, but as you've pointed out, all of those cars are really Chevy IIs. The Nova was an uplevel subset based mostly on upgraded trim. We might argue the '68 is a little different, since all the models were Chevy II Novas that year according to Chevrolet sales literature of the time, and we all know that the Chevy II name didn't appear again after that year — the Nova nameplate took over. Generally, we try to stick to the manufacturer's nomenclature in our writings. In the case of Jeff Koch's story on the '67 Chevelle Malibu you cite, Koch was leaning into the Malibu name to make clear that this car was not a Chevelle SS 396, which might not have been apparent given its big-block engine transplant and other performance upgrades.

DETROIT'S OWN

Glad to see you guys covered the Detroit Autorama. You even featured the "Silver Bullet" GTX that raced at Woodward! Speaking of Woodward, you've really got to cover the Woodward Dream Cruise that occurs every August. Ten miles of Detroit's greatest muscle cars cruising on a beautiful summer day. Be sure to stop at Duggan's Irish Pub for a burger and a beer!

Dennis Brandt
Ann Arbor, Michigan

FUTURE NOT SO BRIGHT?

Just finished Terry McGean's column in the June issue of *HMM* ("Suddenly it's 1971," *HMM* #238), and I have to say that the U.S. automakers are making me very sad by first getting rid of wonderful cars like the Taurus and Impala, but now, they are getting rid of all the pony cars except the Mustang. I personally feel they will regret this down the road.

Yes, SUVs are very popular now but, like everything else, that cycle will fade. Getting rid of internal combustion engines is also a mistake. This will be realized when the electrical grid in this country is overwhelmed and the cost of electricity skyrockets.

I hope that the carmakers and government realize their mistakes before it's too late.

Richard Fiedler
Seymour, Tennessee

SHOPS AND SWAPS

I must admit I had to chuckle a bit (showing my age) regarding Ray Bohacz's comments in response to Joseph Champion's letter on engine swaps ("Mopar Madness," *HMM* 238). Ray related the reluctance of many (most) shops to engage in engine swaps today. I can understand this — electronics have changed everything and advances in engineering are not always the same across the board. But engine swapping was basically the beginning of hot rods in the '40s, '50s, and even the '60s — I even remember people saying, "An engine is an engine." But the best example I can share is the sign on Max Balchowsky's shop (he of "*Old Yeller*" fame) that read, "We'll put any engine into any car!" Those were the days!

Tom Thornell
Lockhart, Texas ■

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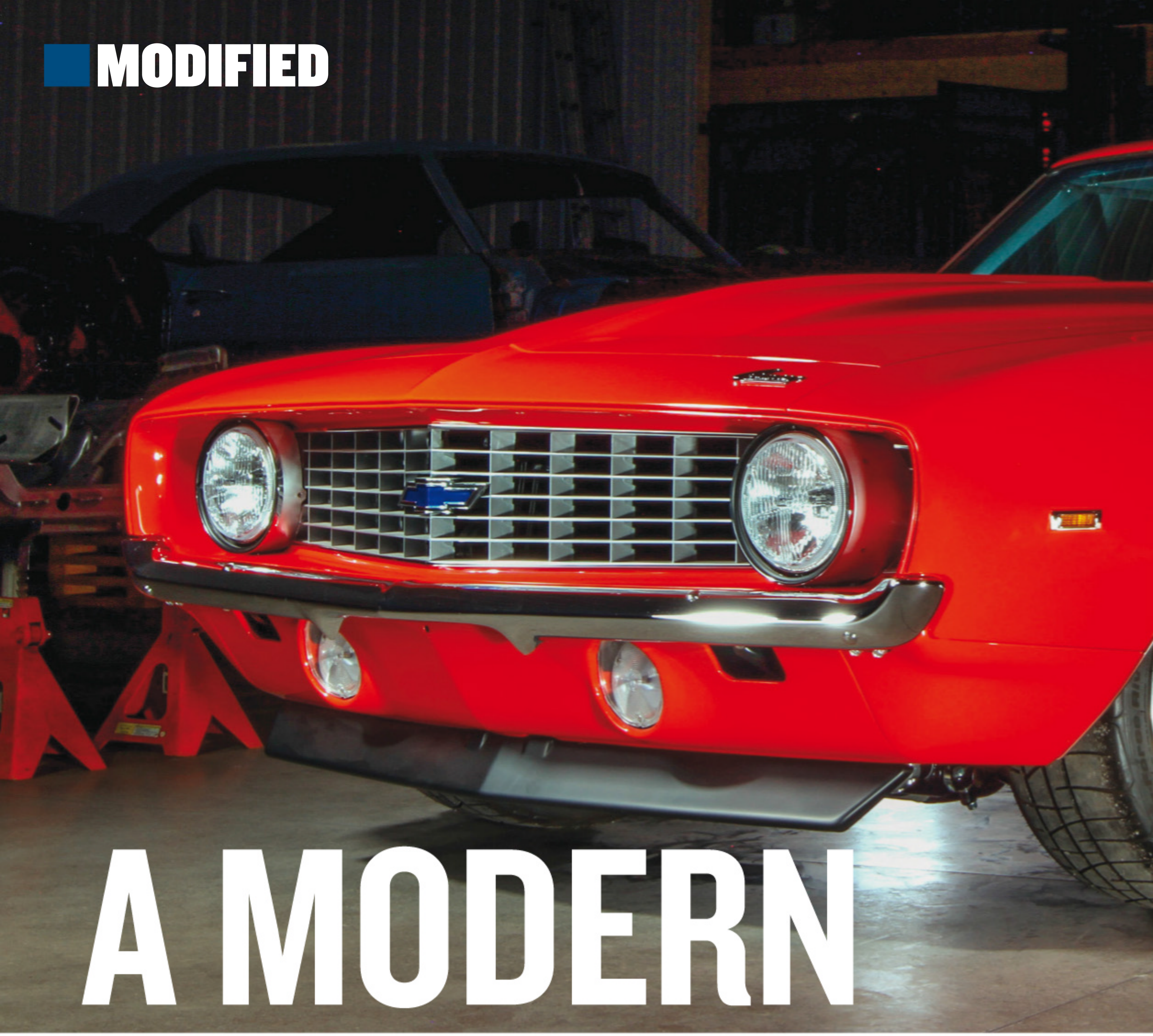


A MODERN CLASSIC

THOUGHTFULLY MERGING TRADITIONAL RESTORATION CRAFTSMANSHIP WITH CURRENT PERFORMANCE TECHNOLOGY TO CREATE A CONTEMPORARY TAKE ON THE CLASSIC MUSCLE CAR

WORDS AND PHOTOGRAPHY BY BARRY KLUCZYK

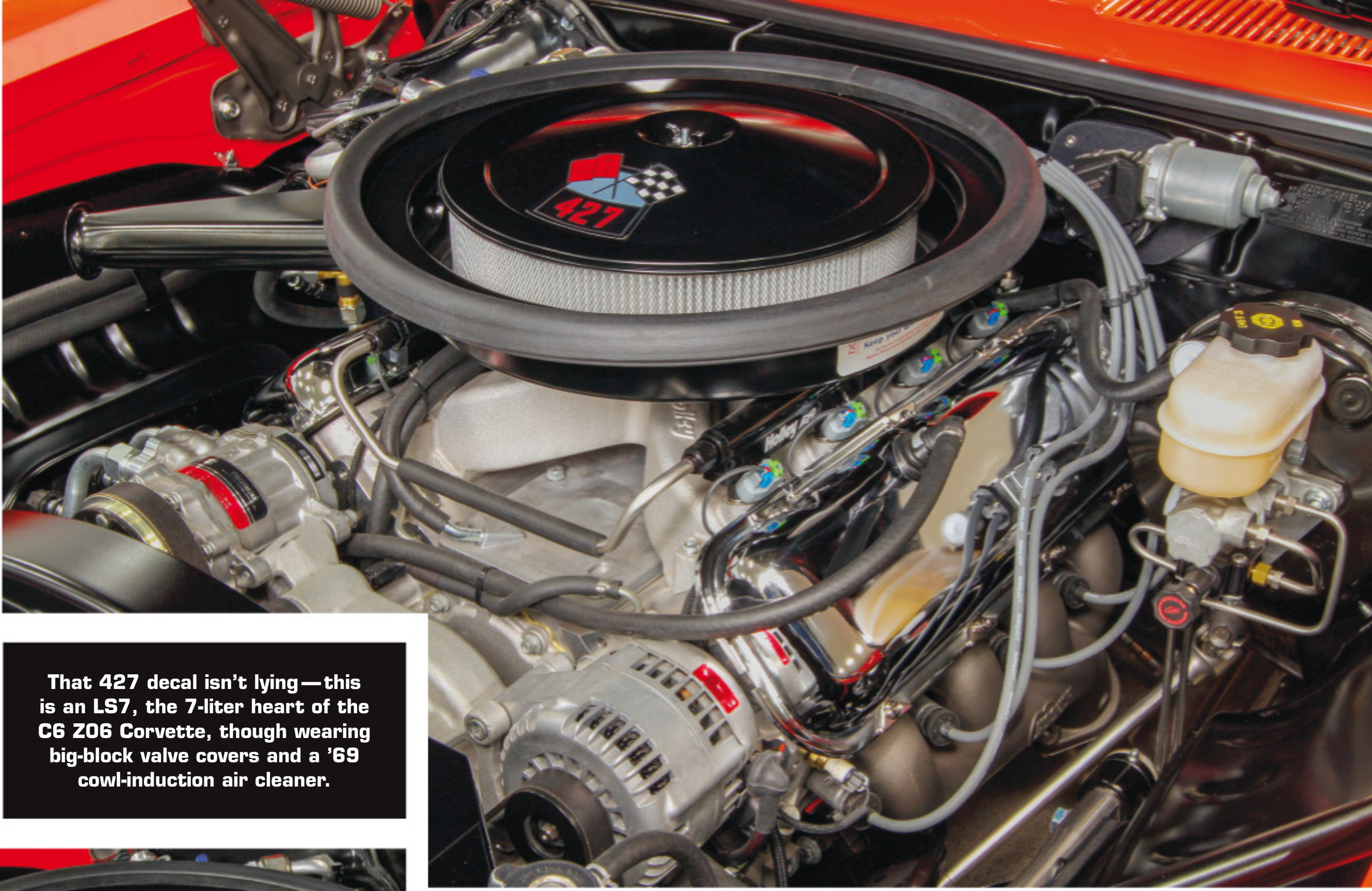
"I'VE ALWAYS loved Hugger Orange and the unadorned simplicity of the base Camaro body just looked great," says Tom Tomlinson, who recently retired as the president and CEO of Holley. "I wanted to build a car with that look, but with a modern LS7 engine, along with good brakes, air conditioning, and the other features that would make it an excellent driver."

That summation perfectly encapsulates the growing popularity of the restomod and Pro-Touring trends, where owners are increasingly opting to have their vintage Detroit steel not only restored, but also updated with modern powertrains, suspensions, and more to balance classic, emotion-evoking style with contemporary driving dynamics.

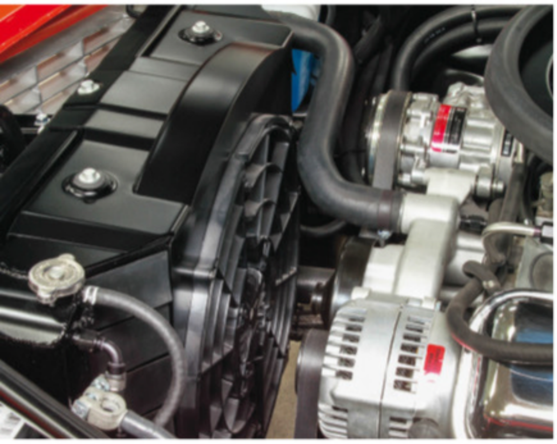
"It's the best of both worlds," Matt Gurjack, founder of Sled Alley, says—his shop was tasked with turning Tom's vision into reality. "There are plenty of great, 100-point restored muscle cars out there, but whether it's because their intrinsic value makes it impractical to take them out for a cruise or the simple fact that cars with no air conditioning, no overdrive, and no disc brakes aren't the easiest to drive on long distances, the move toward restomods and Pro-Touring machines makes a lot of sense."

It does. In an age where seemingly every old lady in her Kia is zipping down the freeway at nearly 80 mph while getting 32 mpg, a 4.10-geared muscle car without an overdrive transmission doesn't exactly keep pace with today's traffic.

"I want to drive and enjoy my Camaro," Tom says. "Stock, restored cars absolutely have their place and



That 427 decal isn't lying—this is an LS7, the 7-liter heart of the C6 Z06 Corvette, though wearing big-block valve covers and a '69 cowl-induction air cleaner.



Drive-by-wire LS7 throttle body was remounted to the four-barrel-style intake manifold. Electric fan tucks under stock-looking shroud.

I respect them, but they don't drive very well, compared to what we're used to with modern cars. Restomods make old cars more fun and arguably safer—and the modern enhancements make them easier to drive and enjoy. I think those qualities also make them more relevant today, half a century after the era of muscle cars."

The project kicked off when Tom dropped off a Camaro body shell at Sled Alley's shop in Michigan. It was a ground-up build from there, essentially creating a new car from scratch, blending original and reproduction sheetmetal.

"Just like a traditional restoration, a lot of work goes in to making everything line up and fit just right," Matt says. "And we still had to do some rust repair on the original fenders we sourced. In that regard, building a restomod is no different than other restoration work."

But it was during the body's straightening and panel-fitting that a number of the restomod chassis and suspension upgrades were incorporated, including a Detroit Speed front subframe with coilovers, frame ties, Quadralink rear suspension, and mini-tubs. A discreet roll bar was also added to the interior.

"It's so much easier in the long run to build in these components during a full restoration," Matt says. "You've got to strip down so much of the car to install them anyway, so it just makes sense to do it with the full restoration."

Tom's car straddles the line between how we delineate restomod and Pro-Touring machines, with the restomods generally incorporating modern powertrain and drivetrain features such as fuel injection, an overdrive transmission, disc brake upgrades, and the like, but mostly with stock or stock-based suspensions. Pro-Touring cars generally take it to the next level, with track-capable chassis and suspension upgrades.

This Camaro has all the track-capable gear from Detroit Speed but dialed back a notch or two on the g-meter. Tom was adamant about the car's comfort and refinement.

"It had to be as quiet and comfortable as possible—and it had to have air conditioning," he says. "What I didn't want was a radical cam, a crazy

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Mark Stielow builds very effectively updated first-gen Camaros, leveraging more than 30 years' experience as a GM engineer.

competition clutch, or a loud exhaust."

Under the hood, the car's 505-horsepower LS7 crate engine fits the bill. It's internally stock and topped with a Holley EFI system that draws its breath through a modified reproduction air cleaner base that Sled Alley crafted to fit the LS engine and stock-type cowl-induction hood. Along with the air box, the chrome valve covers provide a convincing big-block vibe at a glance. The covers are true repro big-block parts that Matt adapted with handmade mounts. He also moved the ignition coil packs to the back of the engine, with plug-wire routing that adds to the visual trickery.

To accommodate the coil packs and the desire to use a factory-style air conditioning plenum, the LS7 was actually moved forward in the chassis a skosh, but you'd never guess by looking at it. At the front of the engine compartment, Sled Alley even mimicked the curve of the original fan shroud in the close-out panel around the C&R Racing radiator and electric cooling fans. The radiator itself is mounted with late-model-style rubber isolators that contribute further to the car's refinement.

In the quest for refinement, Holley's cast-iron exhaust manifolds and a 2.5-inch exhaust system were employed. Additionally, Tom and Matt decided to sidestep the typical 9-inch rear axle assembly in favor of a Moser-built Ford 8.8-inch rear end.

"I've gotten tired of the noisy 9-inch rear ends," Tom says. "You can still get quiet O.E. gears for an 8.8-inch axle and that's why we decided to go with it. It makes all the difference on long drives."

THE PRO-TOURING PIONEER: MARK STIELOW

When Mark Stielow started building track-capable street cars, the term "Pro-Touring" didn't exist, but after more than 30 years on the leading edge of the movement, he has become synonymous with it. Mark was a young engineer, newly hired at General Motors, when he built a 1969 Camaro to compete in the One Lap of America event. To survive and remain competitive with the late-model cars in the competition, he built the Camaro with EFI, a six-speed transmission, and big brakes — the elements common in today's builds, but quite rare in a vintage car then.

"I was fearless at the time," Mark says. "Most of the parts I needed to build the car the way I wanted didn't exist, so I built them."

Mostly, he adapted later-model components to fit, and slowly, the aftermarket started to respond, as more enthusiasts eschewed the conventional street machine and Pro-Street trends that had dominated the modified segment for decades.

"At first, there really wasn't anybody else with similar vintage cars, but in time they came, and it has been a lot of fun competing against them on the track," Mark says. "And it was always a blast to go out, compete, and win in a car you built yourself."

As the restomod/Pro-Touring trend continues, Mark sees the greater emphasis on refinement as a natural evolution.

"Tom's car is a great example of that," he says. "It's very refined and civilized. It's still fast, but not loud or obtrusive. You can have a conversation on the road with it. That's what I think many enthusiasts will appreciate more for the cars they intend to drive."

More than three decades in, Mark is still at GM. In fact, he's the company's director of motorsport competition engineering — and he's still building classic Camaros. His next project is underway at Sled Alley, where Tom's car was built, and it will have an emphasis on refinement over cutting the very quickest lap time.

"I've always tried to incorporate something new in each build, whether it's a new technology or that never-ending quest to make the car more refined," he says. "I'm in my late fifties now, and see things a little differently. Like Tom, I want a car that's quick, but also easy and fun to drive. Something more livable for long drives."

That's a change from the competition-focused goals of his groundbreaking early builds, but a true pioneer adapts and moves forward. That's something Mark has been doing for more than 30 years.

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Slotted between the engine and rear axle is a Tremec T-56 six-speed transmission, while the rest of the chassis includes big Baer brakes, rack-and-pinion steering, and 18-inch Forgeline wheels wrapped with BFGoodrich rubber. The car even has antilock brakes, which adds a measure of safety to the car, and may even prolong tire life by preventing flat-spotting in quick stops that might otherwise lock up the brakes.

The modern wheels and lowered stance are the external giveaways to the car's contemporized running gear, while the body itself, per Tom's vision, remains COPO-basic—although he made a concession and added a black front spoiler. After Sled Alley's time getting the repro body in line, it was sent to Dutchboys Hotrods for its rich Hugger Orange paint job. It's a stunning finish.

In keeping with the ZL-1's stark aesthetic, the vinyl-trimmed cockpit is basic black at its best. There's an original Camaro dashboard topped with a repro dash pad, along with original Camaro seats with revamped springs and new foam. The rear seat was also narrowed slightly to accommodate the Detroit Speed rear suspension and mini-tubs.

Additionally, the transmission tunnel was raised a couple inches to make room for the T-56 gearbox and, per the ZL-1's all-business look, there's no center console—just a chrome Hurst shifter rising out of the floor. There are no aftermarket gauges bolted to the dashboard, either, as all the powertrain's vital signs are conveyed through Dakota Digital gauges. They've become the

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SPECIFICATIONS

1969 CHEVROLET CAMARO

ENGINE

Block type	GM LS7 aluminum
Cylinder heads	GM LS7 CNC-ported with 70-cc combustion chambers
Displacement	427 cubic inches
Bore x Stroke	4.125 x 4.000 in
Compression ratio	11:1
Pistons	GM hypereutectic aluminum
Connecting rods	GM forged titanium
Crankshaft	GM forged steel
Horsepower	505 @ 6,300 rpm
Torque	470 lb-ft @ 4,800 rpm
Camshaft type	GM hydraulic roller
Camshaft lift	.593/.589-in, intake/exhaust
Camshaft duration	210/230 degrees, intake/exhaust Valvetrain with roller-trunnion rocker arms and 1.8:1 ratio
Induction system	Holley aluminum intake manifold with GM 90-mm throttle body
Fuel system	Port fuel injection with 42-lb./hr. injectors (@ 58 psi)
Lubrication	Dry-sump with 2.5-gallon reservoir
Ignition system	GM individual coil-near-plug
Exhaust system	Holley cast iron exhaust manifolds with 2.5-inch mandrel-bent flow tubes and Hooker Blackheart mufflers
Original engine	Chevrolet 350-cu.in. V-8

TRANSMISSION

Type	Tremec Magnum T-56 six-speed manual
Ratios	1st/2.66:1 ... 2nd/1.78:1 ... 3rd/1.30:1 ... 4th/1.00:1 5th/0.80:1 ... 6th/0.63:1 ... Reverse/2.90:1

DIFFERENTIAL

Type	Moser Ford-type 8.8-inch with Eaton Truetrac limited-slip differential and hardened axle shafts
Ratio	3.73:1

STEERING

Type	Detroit Speed rack-and-pinion
Ratio	15:1
Turns, lock-to-lock	2.5 (approx.)

BRAKES

Type	Baer four-wheel discs with ABS
Front	14-in two-piece slotted rotors; six-piston calipers
Rear	13-in two-piece slotted rotors; six-piston calipers

SUSPENSION

Front	Independent; Detroit Speed coil-over-shocks with anti-sway bar
Rear	Live axle with Detroit Speed Quadralink, including coil-over-shocks and anti-sway bar

WHEELS AND TIRES

Wheels	Forgeline three-piece forged aluminum Front: 18 x 10 inches Rear: 18 x 12 inches
Tires	BFGoodrich g-Force Rival Front: 275/35ZR18 Rear: 335/30R18

new staple of vehicles incorporating modern, electronically controlled engines and transmissions, offering neatly integrated graphic readouts set in stock instrument housings.

For this Camaro, the gauges represent just a fraction of the incredible attention to detail that went into making all the updates in this restomod almost invisible. There simply isn't room to list all the intricate and beautifully incorporated features in it—and the more you look, the more you see. The integration of the factory-style A/C plenum and the radiator shroud mentioned above are prime examples.

"That's what I love about building a car like this: Making it look like nothing was done," Matt says. "It takes time, but the result is a car that maintains that timeless, original appearance."

Tom's vision and Matt's craftsmanship appear to have blended seamlessly in this zeitgeist Camaro.

"I think this combination is the best solution for the type of car I wanted—and what I plan to do with it," Tom says. "I wanted a quick yet comfortable driver's car. I wanted the classic looks with modern underpinnings. That's exactly what I got."

And that is the essence of this growing trend in melding restoration with elevated performance and comfort. Factory-correct restorations will continue, particularly for the rarest of authentic muscle cars. Hunting correct parts, returning rare original bits to factory appearance, replicating the efforts carried out on assembly lines half a century ago—all of it to bring a special car back to showroom condition. Those quests remain worthy, rewarding pursuits. But when it comes to getting out and putting on the miles, restomods and Pro-Touring machines offer an excellent alternative, putting muscle car-era metal on the road for enjoyment.

"All the same quality and detail that would go into the restoration of a real ZL-1 was put into this Camaro," Matt says. "The attention to detail is the same, but it simply incorporates different components."

It's a sign of the times—and a modernized classic. ■

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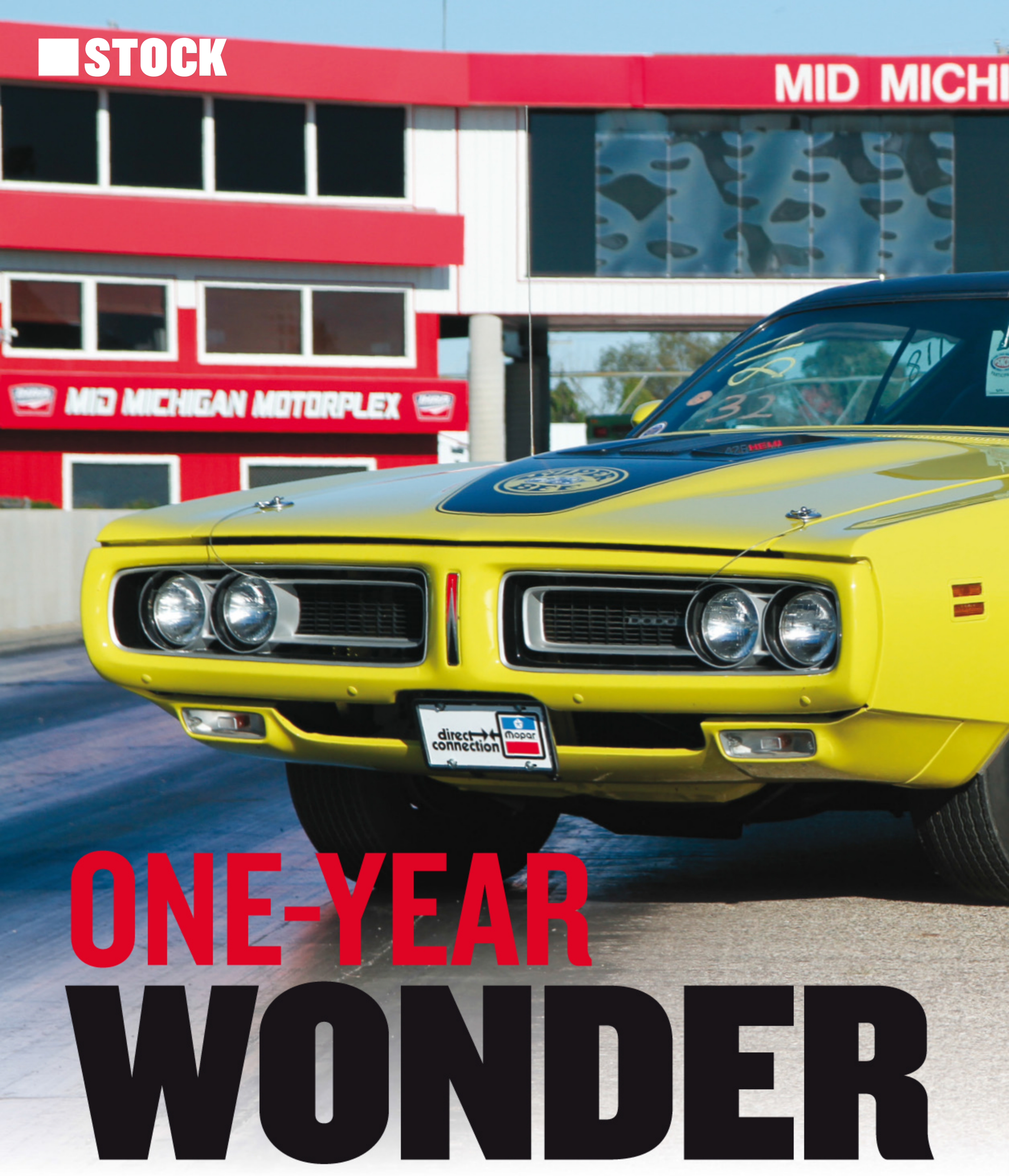
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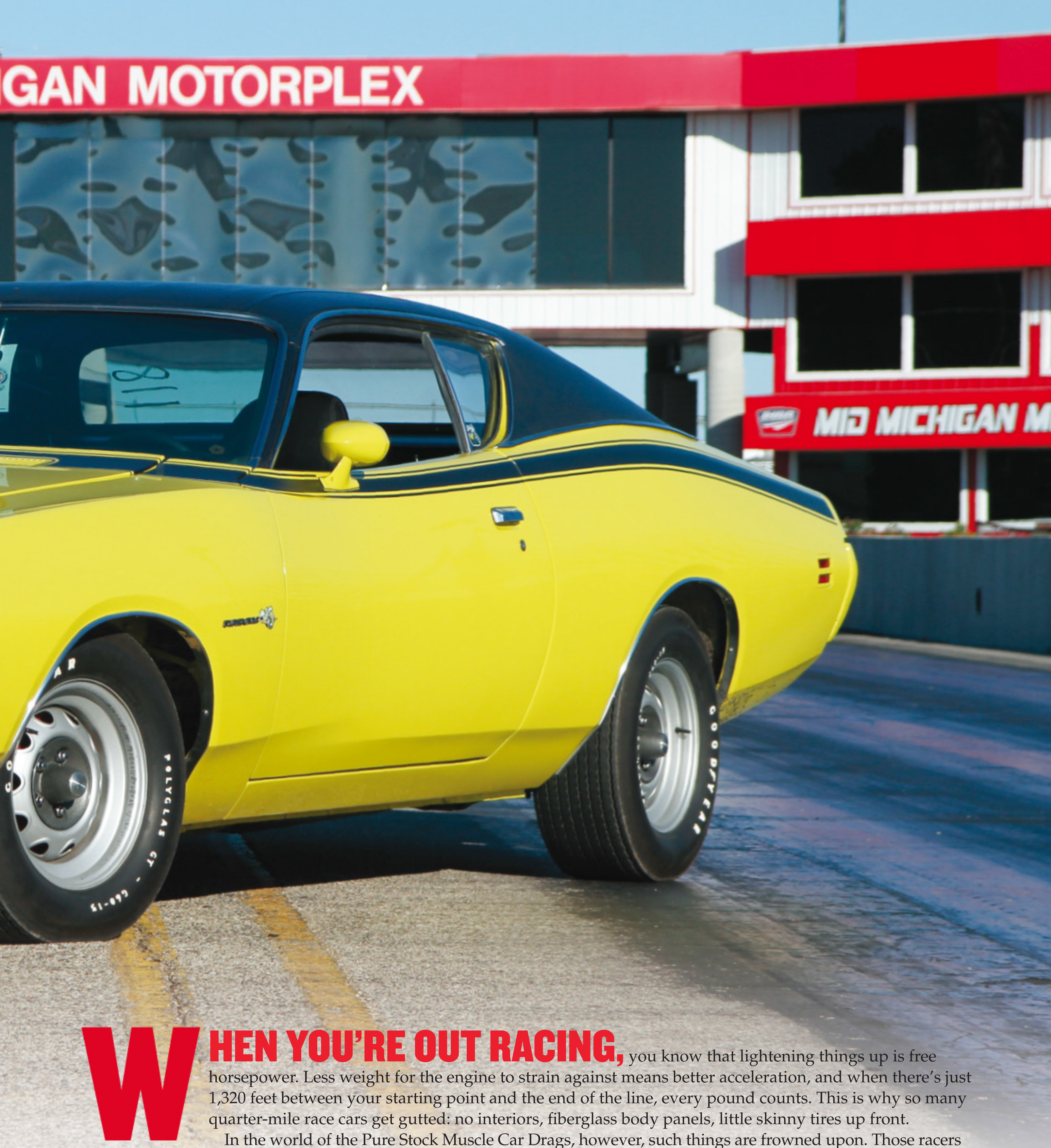
ONE-YEAR WONDER

CUTTING LIGHTS IN A 4,000-POUND '71 CHARGER SUPER BEE

BY JEFF KOCH • PHOTOGRAPHY BY MATTHEW LITWIN

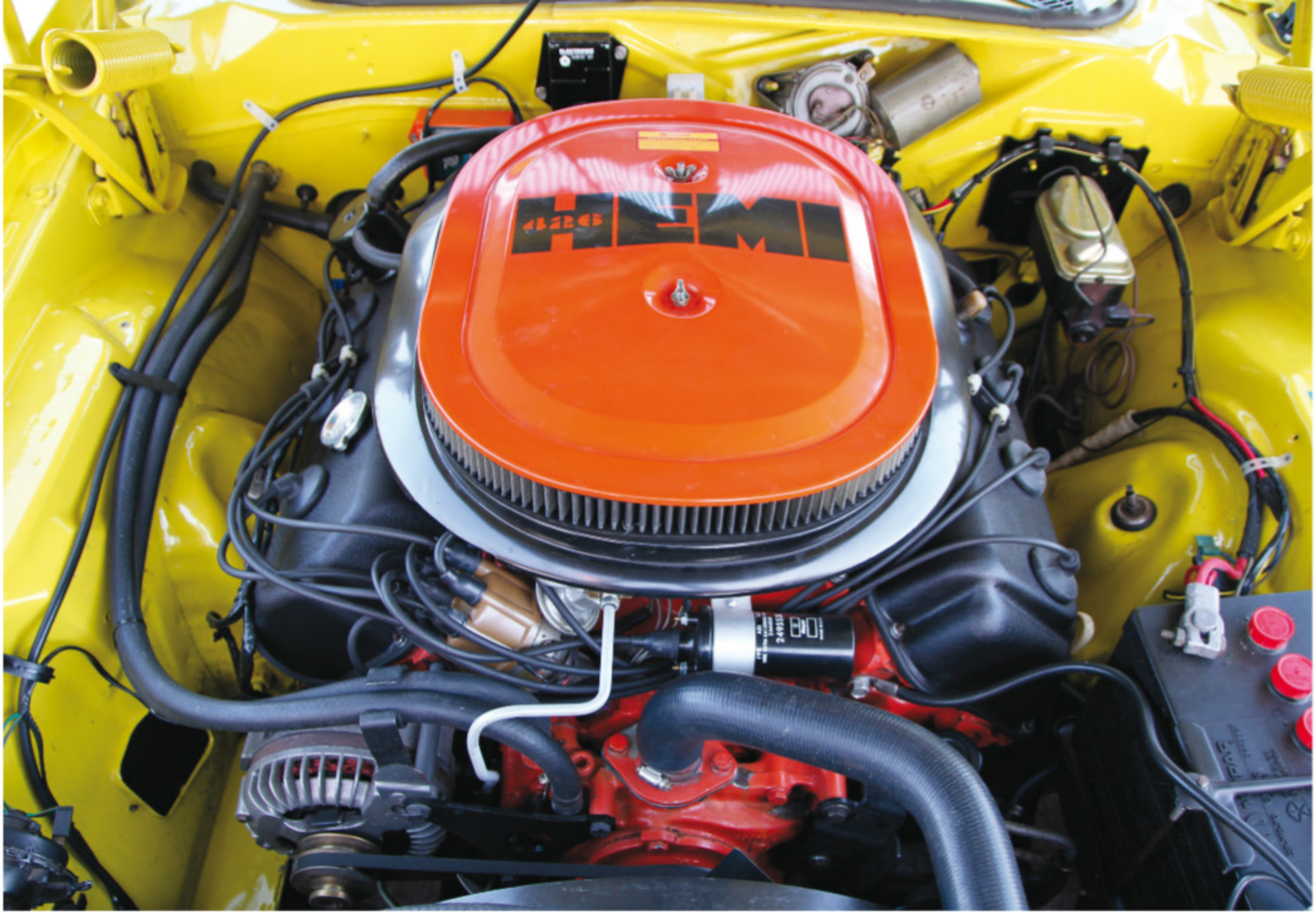


WHEN YOU'RE OUT RACING, you know that lightening things up is free horsepower. Less weight for the engine to strain against means better acceleration, and when there's just 1,320 feet between your starting point and the end of the line, every pound counts. This is why so many quarter-mile race cars get gutted: no interiors, fiberglass body panels, little skinny tires up front.

In the world of the Pure Stock Muscle Car Drags, however, such things are frowned upon. Those racers want to show real as-stock-as-the-rules-allow muscle cars doing the thing that muscle cars were built to do: Go from stoplight to stoplight while proving their dominance over the driver sitting next to them. Choosing the right car can be crucial to your results.

Meanwhile, this Pure Stock-legal 1971 Dodge Charger Super Bee weighs north of 4,000 pounds on the scale, ready to race—and still runs consistent 13.20s on white-letter bias-ply rubber.

Now, you'll recall that the Super Bee was originally the Plymouth Road Runner's unwelcome cousin. When the folks



Though it wasn't born here, this 426 Hemi is set up to correctly replicate what could have been optioned in a '71 Charger Super Bee, in keeping with Pure Stock Drags rules.

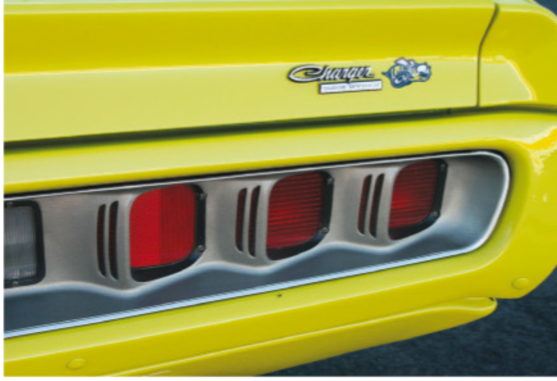
Charger
DODGE DIVISION

at Plymouth pieced together the right 335-horse 383 to drop into a taxi-spec strippo Belvedere coupe, they thought they were building a back-to-basics budget-minded bruiser-cruiser. When their Dodge counterparts got wind of what Plymouth was up to, they dreamed up their own minimalist package based on the two-door Coronet body, using that same 383 as the base engine. Hence the Dodge Super Bee was born. The name brought its own visuals — an angry little stinger with a racing helmet and smoking slicks in lieu of tarsal claws — but also a pun, as it was based on Chrysler's mid-sized "B" chassis. It rolled out of the Highland Park factory with a 3,400-pound curb weight.

But life with Super Bee got weird for its swan-song season, 1971. First, with the B-body line's wholesale redesign, all of Dodge's intermediate coupes were Chargers, and all the four-door sedans were Coronets — there was no longer a Coronet two-door. So, the Bee was merged into the Charger line for one year only.

The Charger body was completely new for '71: Fuselage styling had taken hold at Chrysler, and voluptuous fenders, a long, tapered nose, short deck, and a wide triangular C-pillar were all Charger styling features; it made the previous generation model look positively formal. But the redesign also made the '71 coupes appear to be massive, though the tale of the tape doesn't quite bear that out. Its wheelbase shrank to 115 inches and its overall length (despite those grandiose overhangs) was 4 1⁄4 inches shorter. (It was also nearly an inch lower and 2 1⁄2 inches wider.) Knowing this, you would think this new Charger to make a better race car — smaller with arguably a less-blunt shape to annoy the wind. All the better to go faster.

Alas. By 1971, Chrysler's engineers had seen the future, and knew that muscle cars would not be long for this world. The mighty Hemi, a race car engine bolted into street cars and arguably the muscle car world's high-performance leader in the second half of the '60s, was going to be history by the end of the model year. The new-for-1971 Charger models (even the ones packing Hemi power) would represent Dodge's first tentative



footsteps into the burgeoning world of personal luxury, where power mattered less, and solidity, silence, and comfort would reign supreme. Lessons learned on the '71 Charger would be instrumental in the creation of cars like the Chrysler Cordoba, which was about the only profitable thing that the company had in its lineup when it launched for 1975.

But that doesn't help anything in 1971. Somehow, within four years of its life, Dodge's Super Bee ballooned up to more than 4,000 pounds at the curb. You might think that this was some sort of manufacturer's trick—artificially inflating the weight figured on paper as a sort of inverse to the old game of under-rating engines to keep things friendly with the insurance companies—but no. "This one is actually 4,050 at the scales with no one in it," reports owner and chief caretaker Rich Straub of Cedar Springs, Michigan.

The Super Bee you see on these pages was born a fairly basic machine: a real one-of-4,144 '71 Super Bee, it rolled off the line with the 383/four-barrel/automatic/3.23 combo, as most did. Other than optional body-colored bumpers slathered in the same Citron Yella (also known as Curious Yellow in the Plymouth camp) High Impact hue seen on the rest of the Bee's curvaceous flanks, it was sparsely optioned. (The body-colored bumpers, by the way, triggered the inclusion of Charger R/T taillights in lieu of the standard Charger rear light clusters that other Super Bees got.) Only 22 buyers initially plumped for the Hemi to strain against all of that new-found bulk, although plenty surely were installed after the fact. Such is the case

Carolyn Straub pilots the Hemi-powered '71 Charger Super Bee during the Pure Stock Drags events, turning consistent 13.20s at 106 mph.

here. The engine now in this Bee is a period-correct (1970-dated) service replacement unit that was installed eons before Rich wandered into view and absorbed it into his collection. The Dodge had also been repainted its original hue once.

Originally from the Mountain West region—"I want to say Wyoming or Utah…" Rich notes—it made its way to Michigan and eventually into Rich's hands by 2021. "When I got it, it didn't run that well. There was an internal vacuum leak that everyone tried to chase but couldn't find. I own a car repair facility"—along with, by his own admission, more than three dozen muscle-era Mopars of all descriptions—"and I pulled the intake and found an intake gasket wasn't right. From there it was just dialing in the carburetors." He insists that he hasn't been into the mighty Hemi to improve it or clean things up (as he did with his '69 Dart GTS—see "Replaced and Raced," *HMM* #236) beyond a blueprinted camshaft. "Really, it was just good old-fashioned tuning." The odometer reads just north of 60,000 miles, and Rich has no reason to disbelieve it.

Similarly, the chassis was left alone. "It had a 3.23 gear originally, and I put 4.10s in it. It also has a driveshaft loop now, as well as a shift improver in the transmission. It had good exhaust." The interior, Rich is keen to note, is 100-percent factory original. And it's going consistent 13.20s at 106 mph in the quarter on G60 bias-plies … but Rich says there's more in it. "It has the potential to go 12s. Honestly, I've never had the engine apart, so I'm always a little bit nervous."

We should note at this point that Pure Stock racing is a family affair for the Straubs: his dad raced a '69 Dart back when the series was just beginning, he's had a vast quantity of Mopars respond to his right foot, and now wife Carolyn and daughters Adriana and Caroline are out there tearing it up on race weekends, too. Carolyn is the lucky pilot of this particular Bee and is the racer who's accumulating all of those low-13-second timeslips.

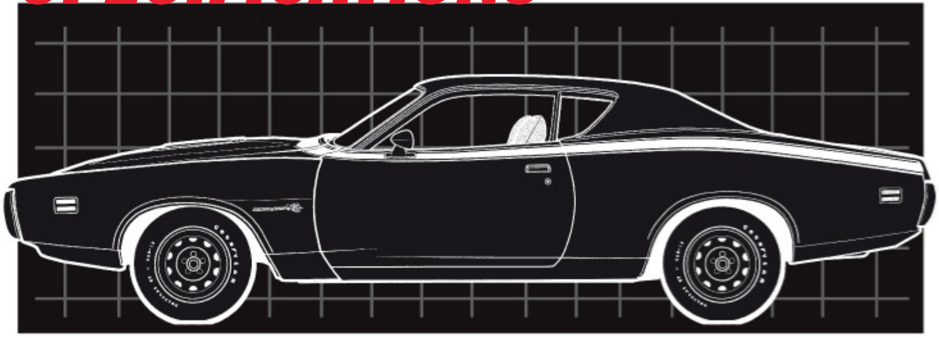
"Carolyn and I met in high school; she's been coming to the track with me since then. Then we had kids, and we took a lot of vacations to car-related events over the years. And for a long time, the girls had limited interest—they'd rather play video games in the fifth-wheel trailer than go to another car show." When it came time to drive, Adriana showed interest in racing first, and quarter-mile fever quickly swept through the Straub household. "They're getting competitive now; they're all really close in ET, so everyone is a little competitive around the dinner table."

Carolyn had been in a '69 Coronet R/T, but more recently has taken a shine to the Citron Yella 'Bee. "She was racing a '72 Demon 340 put together with NOS parts and 100-percent stock—not the fastest on the planet," Rich recalls. "When I got the 'Bee, I drove it, and it ran really well once I got it fixed."

All of that extra weight may blunt its impact slightly on the track, but there are other benefits. "Of all the muscle-era Mopars built, just about everyone who's driven one will tell you that these '71s are the best running and driving cars of all of 'em. They just drive so nice." Carolyn concurred, and proceeded to tear up the Martin, Michigan, facility in the fall of '21. She power-brakes it at the line, the lights go green, the 727 is left to shift at 6,000 rpm, and out come the string of low-13-second timeslips. Easy, right?

"We will be at Martin again soon enough, and I'll be taking three cars—and nothing for myself. Carolyn and my daughters will be racing, and I'll be working on the three cars the whole time I'm there. I'm at the point in my life where I'd rather they have all the fun than do it myself. It doesn't bother me in the slightest." ■

SPECIFICATIONS



1971 DODGE CHARGER SUPER BEE

PRICE

Base price	$3,271

ENGINE

Type	Chrysler “Street Hemi” OHV V-8, cast-iron block and heads
Displacement	426 cubic inches (originally 383 cubic inches)
Bore x Stroke	4.25 x 3.75 inches
Compression ratio	10.25:1
Horsepower @ rpm	425 @ 5,000
Torque @ rpm	490 lb-ft @ 4,000
Valvetrain	Hydraulic valve lifters
Main bearings	Five
Induction system	Two Carter AFB four-barrel carburetors, aluminum dual-plane intake manifold, mechanical pump
Lubrication system	Pressure, gear-type pump
Electrical system	12-volt
Exhaust system	Chrysler cast-iron high-flow exhaust manifolds, dual pipes and mufflers

TRANSMISSION

Type	Chrysler 727 TorqueFlite three-speed automatic
Ratios	1st/2.45:1...2nd/1.45:1...3rd/1.00:1...Reverse/2.57:1

DIFFERENTIAL

Type	Mopar 8 3/4 housing with Sure-Grip limited-slip differential
Ratio	4.10:1 (originally 3.23:1)

STEERING

Type	Manual recirculating ball
Ratio	24:1
Turning circle	40.9 ft

BRAKES

Type	Hydraulic
Front	11x 2.5-in drum
Rear	11x 2.0-in drum

SUSPENSION

Front	Independent, unequal length control arms, torsion bars, telescoping shock absorbers
Rear	Semi-elliptic leaf springs; telescoping shock absorbers

WHEELS & TIRES

Wheels	Mopar Rallye styled stamped steel, drop-center Front/Rear: 15 x 7 in
Tires	Goodyear Polyglas GT Front/Rear: G60-15 (originally G70-14)

PRODUCTION

Dodge built 4,144 Charger-based Super Bees for the 1971 model year

PERFORMANCE

0-60 mph	N/A
1/4-mile ET	13.2 seconds @ 106 mph*

* Source: owner timeslips

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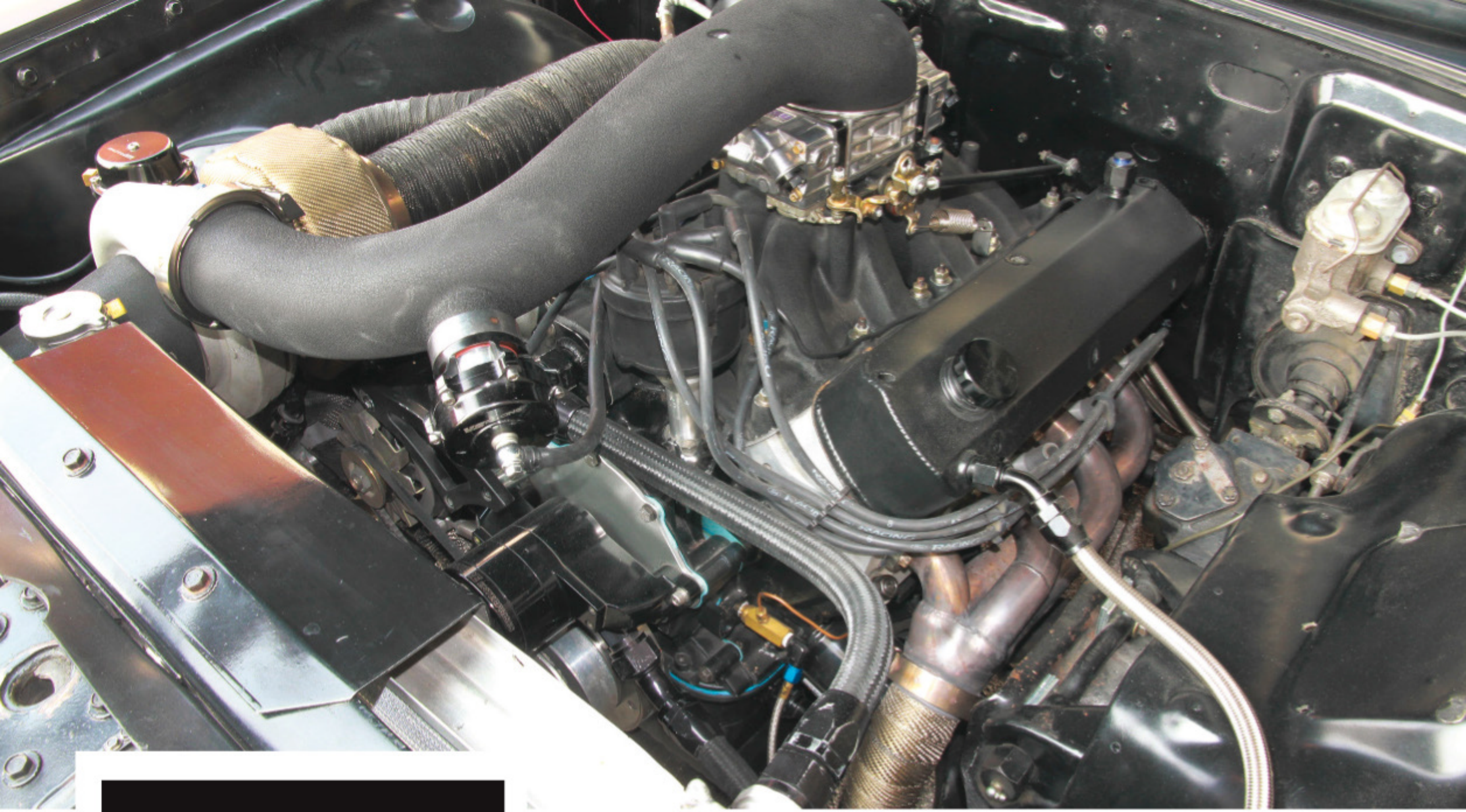
A BIG FORD THAT HARKENS TO DRAG RACING'S PAST

WORDS AND PHOTOGRAPHY BY TERRY McGEAN

THE AESTHETIC APPEAL of the stock-class drag-racing warriors of the 1960s is easy to understand: big cars sporting most of what Detroit had put there on the assembly line, but with more attitude, more aggression. Bulging tires in the rear, skinny rollers up front, open header collectors dangling below, clearly visible thanks to the nose-up stance that indicated forward thrust even at rest.

Mike Hoyt gets it, but he wasn't around to soak it in back when those battles first took place. In fact, not only did he miss the '60s entirely, he also nearly missed the '70s, too. His love of the drag cars of that golden era is a testament, then, to the powerful appeal of a relatively brief window in time—one he'd never experienced firsthand.

The tangible evidence of Mike's understanding of that vibe can be seen in his '64 Galaxie. "I wanted this car to look like it had been just like it is for a very long time," he tells us. It's those flat-black front body panels that Mike likely thought he'd have to explain. To long-time disciples of Dearborn's racing efforts, it's plain that those fenders and the hood are fiberglass, just as the factory had used for its lightweight drag racing Galaxies when they were new.



ABOVE: You wouldn't expect to see a turbocharger here, or a 351W, but this package ought to be good for more than 600 hp.

OPPOSITE: The 80-mm turbo uses no intercooler, but easily sends a pump-gas friendly 8 psi of boost to the Holley 750.

But those factory racers had matching paint, so why the primer here? It's a look Mike desired, very distinctly. Back in the day, a local racer would likely have purchased those panels and never had them sprayed—paint won't make it go any faster after all. To emphasize how much Mike desired that look, we must point out that he could easily have added the shiny stuff himself—he owns a collision shop and has laid down show-worthy paint on numerous other projects over the years, both for himself and for clients.

But this time around, it was the dedicated, singularly focused '60s race machine that Mike sought to replicate, at least visually. It had actually been the previous owner who'd gathered the fiberglass parts, along with a number of other desirable pieces for the sort of killer FE-series engine you'd expect in a car like this. There were Crites headers, period-style finned rocker covers, a tall aluminum intake, and more. Unfortunately, all those speed bits were bolted to what was essentially a stock 352.

"I think he had something good in there at one point," Mike says of the man he'd bought the Galaxie from, offering that, "You don't buy those parts to doll-up a 352. I'm assuming whatever was in there must have blown up."

But when Mike set out to repower the Galaxie, he didn't look to the era of the car's outward appearance, instead opting to draw from much more recent trends. So, rather than another FE, like a period-accurate 427 topped with dual quads, Mike now runs a 351 Windsor-based engine, but with a great equalizer: a turbocharger. And this one isn't Mike's first.

"My uncle, Paul, and I are close in age, and we grew up together—he's more like a cousin or even a brother to me. We've been messing with cars for a long time, and a few years ago, I said, 'Nobody around here is using turbos—let's try that.'"

And so they did, with Mike experimenting on his favored Fords and Paul using the Mopars he's more fond of. It began with one of Mike's previous efforts, another early-'60s Ford, this one a '62 Country Sedan station wagon. For power, Mike chose a '90s-era 5.4-liter single overhead-cam V-8, as found in a number of Ford trucks of that time. He upgraded the camshafts and added a turbo and an intercooler but eschewed the factory EFI for a tried-and-true Holley four-barrel, specially prepared by Kevin Van Noy at Carburetor Solutions Unlimited for use in a boosted

0.0 PSI 02 HTR
AFR

application. The blow-through system Mike assembled was capable of making 20-psi of boost, but he soon discovered that was the point where the head bolts would give up. Still, with just a little less boost, it made tons of power.

When a friend had to have the wagon more than Mike did, he sold it off and acquired this '64 Galaxie, and then set about creating another turbocharged engine package, only this time with something more familiar. Ford's 351 Windsor debuted for the 1969 model year and lasted up into the '90s, but it wasn't until the era of the 5.0 Fox-platform Mustangs that the performance aftermarket really started to pay attention to these engines. After a renewed proliferation of speed parts blossomed for the 5.0/302, it only made sense to look at the Windsor—essentially a tall-deck version of the 302, making the room for its ½-inch of additional crankshaft stroke. But even in tall-deck form, the Windsor is a much more compact engine than both the FE that resided in the Galaxie at one time and the '90s

P
muscle machines

FORD
muscle machines

5.4 SOHC engine Mike had used in his previous project. That would leave plenty of engine bay room for the turbo's plumbing.

Another boon of the Fox Mustang era was that, by the mid-'90s, stroked Windsors were fairly common, enabling Mike to readily obtain the pieces needed to assemble a 408-inch version, which he topped with GT40 aluminum heads and a F-303 hydraulic-roller camshaft — items that had come from the Ford Racing catalog, again thanks to the Fox Mustang. To feed it, Mike stuck with his earlier approach and used another Holley 750, again set up expressly for a boosted application by CSU.

One thing Mike elected not to use this time out was an intercooler, instead feeding the output of the Precision T4-flange 76/65 turbocharger (with .96 A/R for the boost nerds out there) directly into the intake manifold. "The intercooler [I used on the wagon] was okay, but I was trying to keep it simple," Mike explains. "If you keep the rpm down and you keep the boost down, you really don't need an intercooler. On the 5.4 engine, the intercooler allowed higher boost, but that just broke the engine."

Galaxie 500
OFF ON

In a nutshell, bigger boost means bigger bucks, and part of the challenge of these projects for Mike has been to make impressive power while maintaining good reliability but also staying within a reasonable budget. The non-intercooled Windsor enabled doing just that. In fact, the turbocharger's installation was facilitated by the smaller engine in a large bay, when Mike found that extra space would allow him to use a pair of Fox Mustang aftermarket "shorty" headers, bolted in place backwards, as the basis for the turbo's "hot-side" plumbing, the rest of which Mike fabricated, including the 3.5-inch single exhaust system using a single Dynomax Ultraflow muffler.

With that setup, Mike saw 516 hp to the rear wheels running just 7 psi of boost, which he felt was conservative, even on pump gas; he feels it would have withstood 10 psi with the right tuning. Unfortunately, that engine saw

13 to 14 psi at one point, and that broke the pistons.

No matter—Mike had another 408 waiting in the wings, this one formerly mounted in the '68 Mustang drag car he'd run previously. The Mustang didn't use any form of boost, so that engine had been built for a naturally aspirated combination, yet it still lent itself to the Galaxie's turbo program. While Mike was at it, he upgraded to an 80-mm VS Racing turbocharger, this one with 1.25 A/R. Its larger outlet motivated Mike to build a new 4-inch single exhaust system as well.

The newer 408 uses Edelbrock Victor Jr. aluminum heads and a Victor Jr. single-plane intake, but it retains the same fuel system as before: an Aeromotive A1000 external pump feeding a big-10 line, drawing from the sump built into the stock Galaxie tank by the previous owner. "I went a little overkill on the fuel system, but I figured I'd never have to come back and upgrade later," Mike says.

Power goes through the same Toploader four-speed that was in the Galaxie when Mike bought it, along with the vintage Hurst V-Gate in-line shifter, which looks just right in a car like this, the separate reverse lever making clear that competition use is part of the program.

Mike does indeed intend to get the big Galaxie to the track this fall, after the tuning is fully sorted on the newer combination. Mike is figuring that, with the 8 psi he's running, this 408 should be making about 625 hp (he intends to put it on the dyno before hitting the strip). "The timing is locked at 30 degrees at the distributor, but for every pound of boost, the ignition system pulls one degree; meanwhile, one pound of fuel pressure is added for each pound of boost," Mike details, drawing from his experience. "That's a very conservative approach, but it works really well."

So, while this is primarily a street car, a big Ford with the look and attitude of this one needs to see the strip every so often. We're sure it will surprise more than a few other racers when the hood goes up in the pits to reveal the source of all that thrust. ■

SPECIFICATIONS

1964 FORD GALAXIE 500

ENGINE

Block type	Ford 351 Windsor, non-roller, OHV V-8, cast-iron
Cylinder heads	Edelbrock Victor Jr., aluminum
Displacement	408-cu.in.
Bore x stroke	4.030 x 4.00 in
Compression ratio	9.0:1
Pistons	DSS custom forged "M3"
Connecting rods	Scat forged
Horsepower	625 @ 8 psi (est.)
Torque	700 @ 8 psi (est.)
Camshaft type	FTI custom-ground solid roller
Duration	230/240 degrees at .050, intake/exhaust
Lift	.600-in, 115-degree lobe separation angle
Valvetrain	Crower roller rockers, 1.6:1
Induction system	Holley 750 by CSU on Edelbrock Victor Jr. manifold, VS Racing 80-mm turbo, with 1.32 AR housing
Lubrication system	Stock oil pump
Ignition system	MSD 6 BTM box and MSD distributor
Exhaust system	Mustang 5.0 shorty headers, installed backwards into a 2.5-in Y-pipe, 4-inch outlet to a Dynomax Ultraflow, to the tailpipe
Original engine	Ford FE-series 352-cu.in. V-8

TRANSMISSION

Type	Ford Toploader four-speed manual, iron case, wide ratio
Ratios	1st/2.78:1 ... 2nd/1.93:1 ... 3rd/1.36:1 ... 4th/1.00:1 ... Reverse/2.78:1

DIFFERENTIAL

Type	Ford 9-inch, narrowed housing, 31-spline Moser axles, Ford Traction-Lok limited-slip
Ratio	3.50:1

STEERING

Type	Recirculating ball, manual
Ratio	22:1

BRAKES

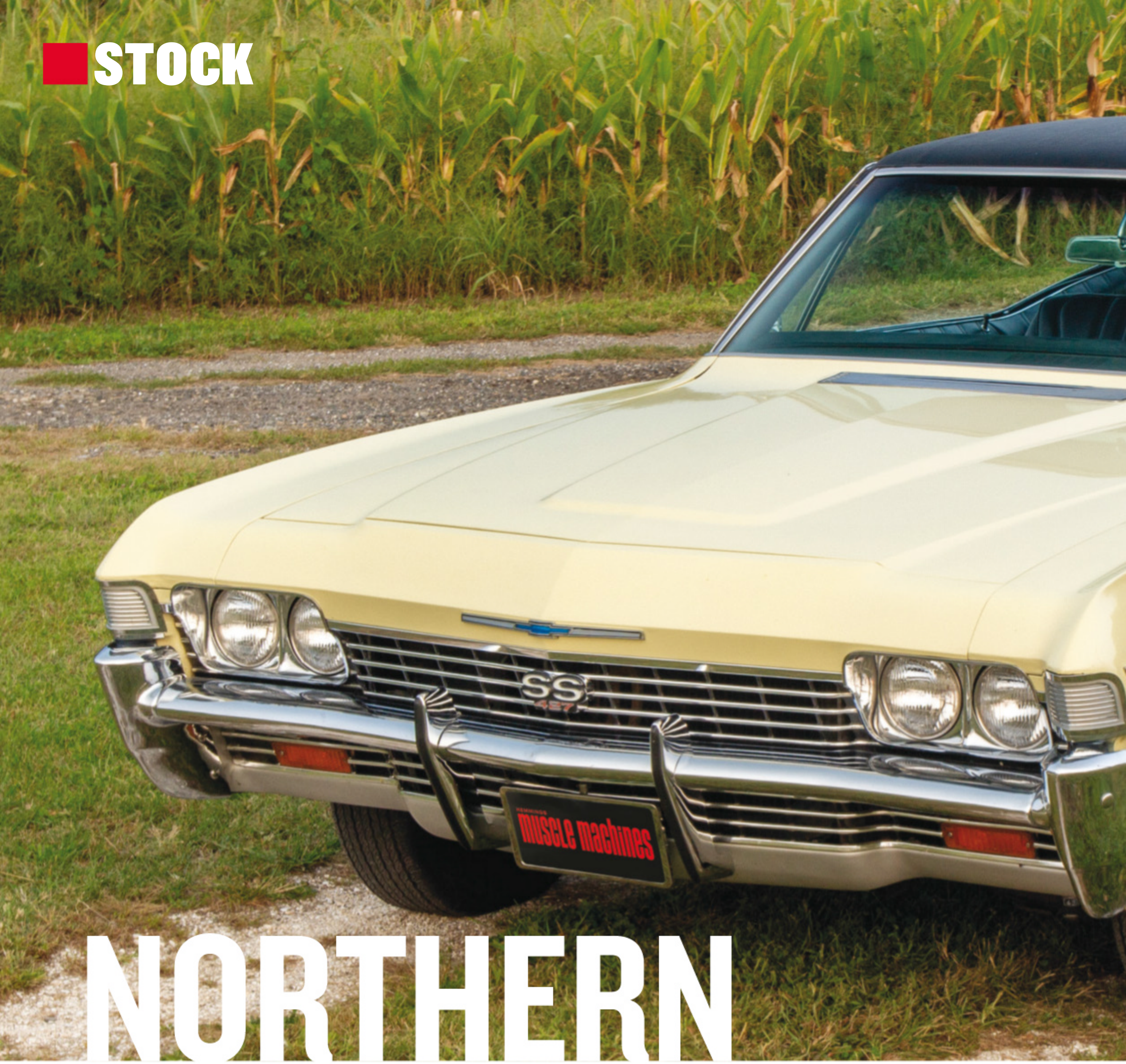
Type	Hydraulic front disc/rear drum
Front	Ford '70s full-size 11-in disc
Rear	Stock Ford 10 x 2.5-in drums

SUSPENSION

Front	Stock '64 Ford with cut coil springs and QA1 single-adjustable shocks
Rear	Cal-Tracs split mono-leaf springs moved inboard, Cal-Tracs bars, QA1 single-adjustable shocks

WHEELS & TIRES

Wheels	Front: Ford stamped steel 15 x 6 inches Rear: Rocket Wheels 15 x 10 inches
Tires	Front: 225/65-15 Rear: 275/60-15


SS
427
HEMMINGS
muscle machines

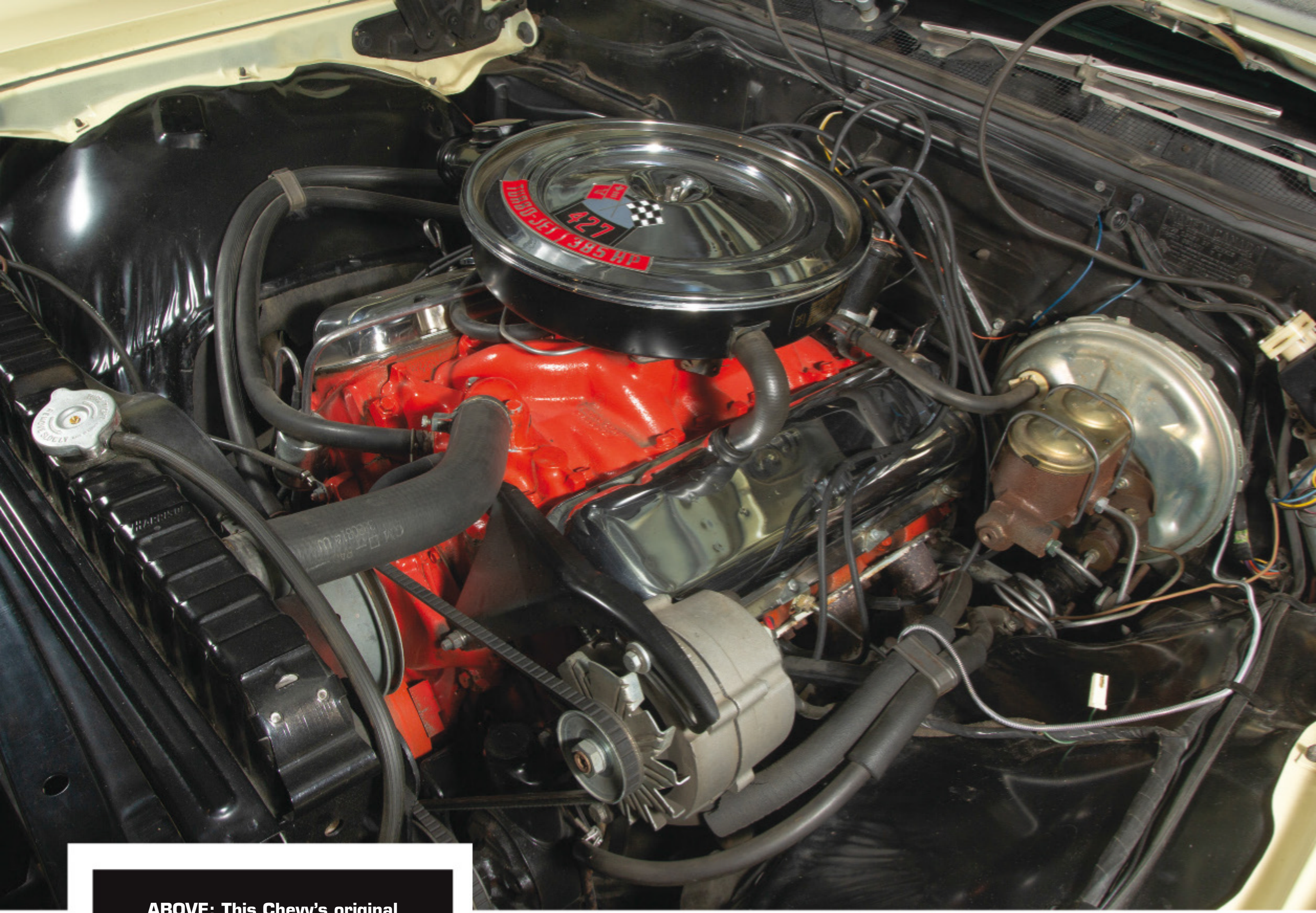
NORTHERN TREASURE

THIS RARE, UNRESTORED, CANADIAN-BUILT, 1968 CHEVROLET SS 427 HAS TRAVELED JUST 18,000 MILES

WORDS AND PHOTOGRAPHY BY THOMAS A. DeMAURO

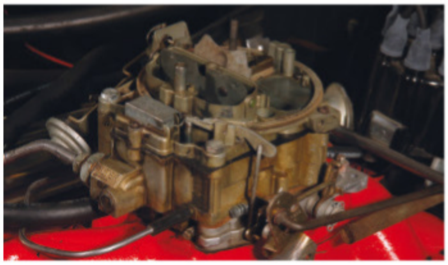
CHEVROLET'S FULL-SIZE muscle car packages of the 1960s projected confidence through dynamic styling, powerful engines, durable drivetrains, and heavy-duty suspension systems, as is evidenced by this 1968 SS 427. Despite being the products of GM's entry-level division, Chevy's full-size cars of the period were never short on style, performance, or favorable driving dynamics, as reflected by their popularity.

While most of us would've had to settle for seeing the new Chevy full-size offerings of that storied decade in dealer brochures and showrooms or in print and television ads, Don Bock didn't. He's the R&D manager at American Autowire, Inc. in New Jersey, today, but he recalls that when he was growing up in the southern region of the Garden State, his dad used to receive new Impala four-door hardtops as leased company cars every two years from 1960 to 1973. Thus, Don was exposed to a variety of Bowtie full-sized models dating back to his earliest memories of tagging along on daily errands, riding to and from school, and even trekking across the country with his family to vacation destinations.



ABOVE: This Chevy's original owner swapped the stock hydraulic cam for a solid-lifter setup; it remains today, but the headers have since been swapped back to the original manifolds.

RIGHT: The factory-installed Quadrajet is untouched, and still functions as it should.



Saying that he has since been drawn to 1968 Impalas in particular is a bit of an understatement, as he's owned 19 of them. His second car in high school was an SS 396 with a four-speed; he's held title to the same 396-powered Custom Coupe twice; and this feature car is his fifth SS 427. He found the Butternut Yellow muscle car in Winnipeg, Manitoba, Canada, and knew about it for over 10 years before Andrew Glabush from Selkirk alerted him to the fact that the car was available, and put him in touch with the owner, Doug Cox. Don bought the SS 427 in June of 2019, with just 17,100 miles on its odometer, and it was "in outstanding original condition," he remembers.

According to its GM of Canada documentation, it was built at the Ste. Therese, Quebec, plant and originally sold by Ted Brooks Chev Olds Ltd, in Calgary, Alberta. Don points out, "Being a Canadian car, it has some unique items on it like

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a 1967-style radiator and ID tag; a Canadian-made radiator cap, and shocks; and a different trunk paint-style and mat color, just to name a few."

Its Z24 SS 427 Performance/Identification Package included the L36 385-hp 427-cu.in. Turbo Jet engine; "special" three-speed manual transmission; 15 x 6-inch wheels; a "special" domed hood with simulated air intake; black-accented grille; bright simulated front fender louvers; "special" suspension, red stripe tires, SS 427 ornamentation; and chrome-accented air cleaner, rocker covers, and oil filler cap. When paired with that package, the Z03 Impala SS option added the all-vinyl Strato bucket-seat interior and a console.

Soon after the original owner purchased the car, he had the dealer install a solid-lifter camshaft and headers to replace the hydraulic cam and cast-iron exhaust manifolds. The factory dual exhaust system was modified to work with the headers but was retained, and even "the ink-stamped part numbers were still on the back of the mufflers when I got the car," Don says.

From the factory, this engine was also equipped with a Rochester Quadrajet carburetor, a cast-iron dual-plane intake manifold, oval-port, canted-valve cylinder heads, cast-aluminum pistons, and a forged-steel crankshaft and connecting rods. As far as Don knows, the 427 engine and 3.31:1-geared Positraction rear axle have never required rebuilding, and even the original 11-inch clutch is still in place. He has recently learned, however, that the extra-cost Muncie M20 wide-ratio four-speed transmission was replaced under warranty in 1969.

The heavy-duty suspension retains its original "special" coil springs, spiral shocks, and bushings, and its larger front anti-sway bar. Power front disc brakes employ 11.75-inch rotors and four-piston calipers, which were recently rebuilt, and they complement untouched-since-assembled 11-inch rear drums.

Factory-applied code-Y Butternut Yellow paint and the optional black vinyl top still adorn the curvaceous

SPECIFICATIONS

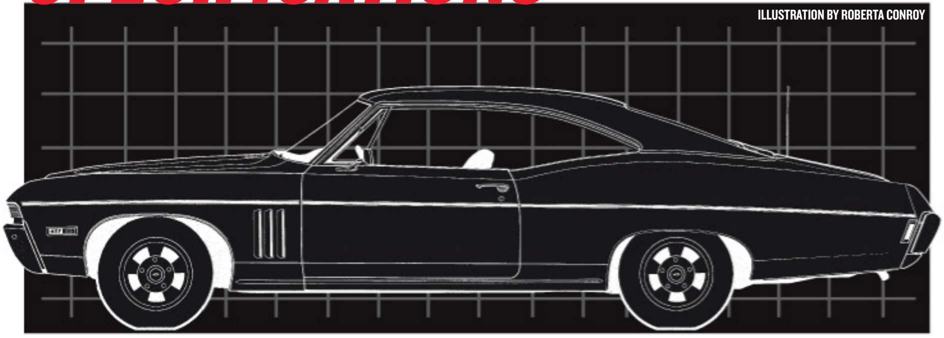
ILLUSTRATION BY ROBERTA CONROY

1968 CHEVROLET SS 427

PRICE

Base Price (Impala sport coupe)	$2,968
Options on car profiled	Z24 SS 427 Performance/Identification Package; Z03 Super Sport Package; L36 427/385-hp high-performance V-8; M20 wide-ratio four-speed transmission; G80 limited-slip rear end, 3.31:1 ratio; N40 power steering; J50/J52 vacuum brakes/ front disc brakes; PU2 G70-15 four-ply red-stripe tires; A02 tinted windshield; C08 vinyl top; K05 engine block heater; U53 pushbutton AM radio (upgraded to U69 AM/FM with Delco reverb unit by the dealer); U73 rear antenna; U80 rear seat speaker; Z49 Mandatory Canadian base equipment modifications; dealer-installed accessory tach on steering column; factory bumper guards; underhood lamp accessory kit

ENGINE

Type	Chevrolet Mark-IV "big-block" OHV V-8, cast-iron
Cylinder heads	Cast-iron
Displacement	427-cu.in.
Bore x stroke	4.251-in x 3.76-in
Compression ratio	10.25:1
Horsepower @ rpm	385 @ 5,200
Torque @ rpm	460 lb-ft @ 3,400
Camshaft type	High-performance, hydraulic-lifter, flat-tappet (Currently: high-performance solid-lifter flat-tappet)
Valvetrain	2.065/1.72-in valves; rocker arms; pushrods; valve springs
Fuel system	Rochester Quadrajet four-barrel carburetor
Lubrication system	Stock gear-type oil pump and oil pan
Ignition system	Breaker-point distributor
Exhaust system	Cast-iron manifolds; dual head-pipes; dual mufflers, resonators, and tailpipes

TRANSMISSION

Type	Muncie wide-ratio four-speed
Ratios	1st/2.52:1 ... 2nd/1.88:1 ... 3rd/1.47:1 ... 4th/1.00:1

DIFFERENTIAL

Type	Chevrolet 12-bolt; 8.875-inch ring gear; Positraction (limited-slip)
Ratio	3.31:1

STEERING

Type	Recirculating ball and nut
Turns, lock-to-lock	4.0

BRAKES

Type	Hydraulic, disc/drum, power assist Front: 11.75-inch rotors; Rear: 11-inch drums

SUSPENSION

Front	Independent; Unequal-length control arms; heavy-duty coil springs; tubular shocks; anti-sway bar
Rear	Live axle; control arms; heavy-duty coil springs; tubular shocks

WHEELS & TIRES

Wheels	Stamped-steel, wheelcovers; Front/Rear: 15 x 6-in
Tires	Firestone Red Stripe; Front/Rear: G70-15 (currently GR70-15)

PRODUCTION

Just 1,778 SS 427s were built for 1968. According to the GM of Canada paperwork, 950 Z03 cars were produced for sale in Canada and approximately 80 of them were Z24 SS 427s.

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OWNER'S VIEW

I'm highly impressed by the fact that the SS 427 is mostly untouched, original, and one of the best unrestored cars of this type known. The paint, vinyl top, interior, undercarriage, and trim are amazing, almost to the point of looking restored. Its vinyl top still has the plastic retainers down inside the rain gutters. Other than a scuff here or there, the chrome is about as perfect as brand new. The seats are still soft and pliable, and the rugs show no wear or fading at all. This car even retains all four of its original spiral shocks. *—Don Bock*

fastback body. Its decklid was repainted back when new, and the only significant blemish in the overall finish is a previously repainted area on the driver's door.

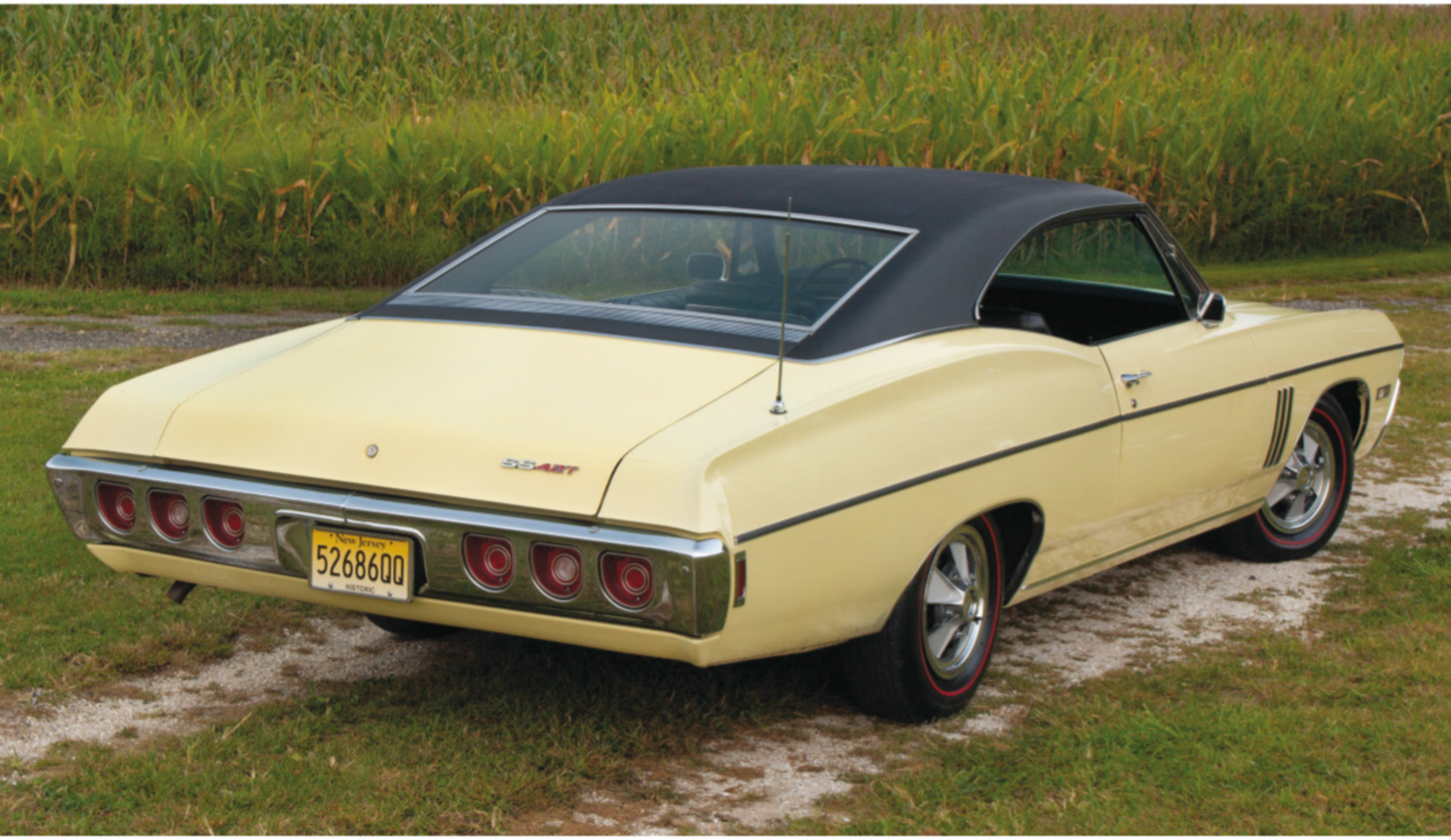
Given this SS 427's low mileage and its owner's desire to preserve its originality, you might think that he wouldn't drive it much, but you'd be wrong. Don exercises his vintage cars often, as he enjoys participating in shows and cruises. He pilots them to and from the venues regardless of the distances involved. Consequently, he's added 1,100 miles to this SS 427's odometer in the last year alone.

His reporting from the road reveals, "It goes like a scalded dog, and drives and handles like a new car should. It doesn't have a squeak or rattle in it. A friend said riding in it took him back 50 years with the sound of its exhaust and whine of the Muncie transmission." One of Don's favorite moments behind the wheel came when he had the SS 427 do "its first long, smokey burnout! It kind of surprised me," he remembers.

All enthusiastic road work aside, owning this unrestored full-size muscle car also requires discipline. He cautions, "The most difficult part is maintaining it and trying to keep it looking original, and not restored. You must fight the urge to take things apart and refinish them to make the car nicer because, if you do that, it destroys its originality. You must keep the authentic patina of the original parts in mind. Thankfully, this SS 427 was so nice that it has been pretty easy to do."

He also warns, "With an unrestored car, you don't win awards per se, they just get presented for certification as to their originality, which this car has done successfully at the Vintage Chevrolet Club of America (VCCA) level. It's called Historic Preservation of Original Chevrolet Features for VCCA and Historical Preservation of Original Features for the Antique Automobile Club of America (AACA)." He is also a member of National Impala Association's Jersey Late Greats chapter.

Since the feature photos were taken, Don replaced the factory-installed



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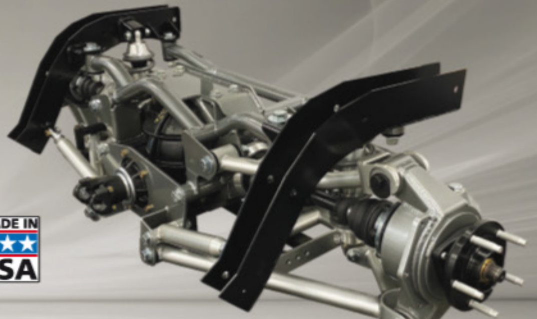

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hoses with correct reproductions, and he's reinstalled the original exhaust manifolds that came with the purchase of the car. He observes, "They were removed so early, there's still a fair amount of the orange engine paint overspray on them." He's also bolted in "a complete NOS assembly-line correct exhaust system with welded mufflers that was backdoored out of the Tarrytown assembly plant. GM never serviced them that way, so these pipes were a truly amazing find." Going forward, Don plans to add a few dealer-installed accessories and correct the repainted area on the driver's door.

He concludes, "I was looking for the best unrestored '68 out there, and I knew that I couldn't just special order one. My main wants were the Z24 and Z03 options and a four-speed. I usually lean toward the Custom Coupe or convertible models, but when this fastback became available, I didn't hesitate. Its color took some getting used to, as I would have preferred a blue, teal, or turquoise car." Nevertheless, the pros far outweighed any cons when contemplating owning, driving, and showing this faithfully preserved, unrestored, Canadian-built, 1968 SS 427. ■

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WELD DONE

WE FOLLOW THE PROS ON A 1970 MUSTANG'S FLOOR REPLACEMENT

WORDS AND PHOTOGRAPHY BY BARRY KLUCZYK

RUST NEVER SLEEPS. It's an adage of the automotive hobby as true as the guarantee of vapor lock when trying to start your muscle car in front of a crowd on a hot summer car-show field.

A rusted floor is one of the more common areas of corrosion regardless of the make or model—but it's almost a given for early Mustangs. Even if a car wasn't subjected to 20 years of salted roads, water leaks were common, and at the minimum they typically led to rotted toe panels and front floorpans.

For the Rust Belt pony cars, the floor often began to evaporate pretty early in their road life, and countless Mustangs were budget-patched with sheet steel and the occasional license plate to stem the cancerous spread. But as we mentioned, rust never sleeps and patch jobs were just that—temporary fixes that helped keep cars on the road but didn't eliminate the problem.

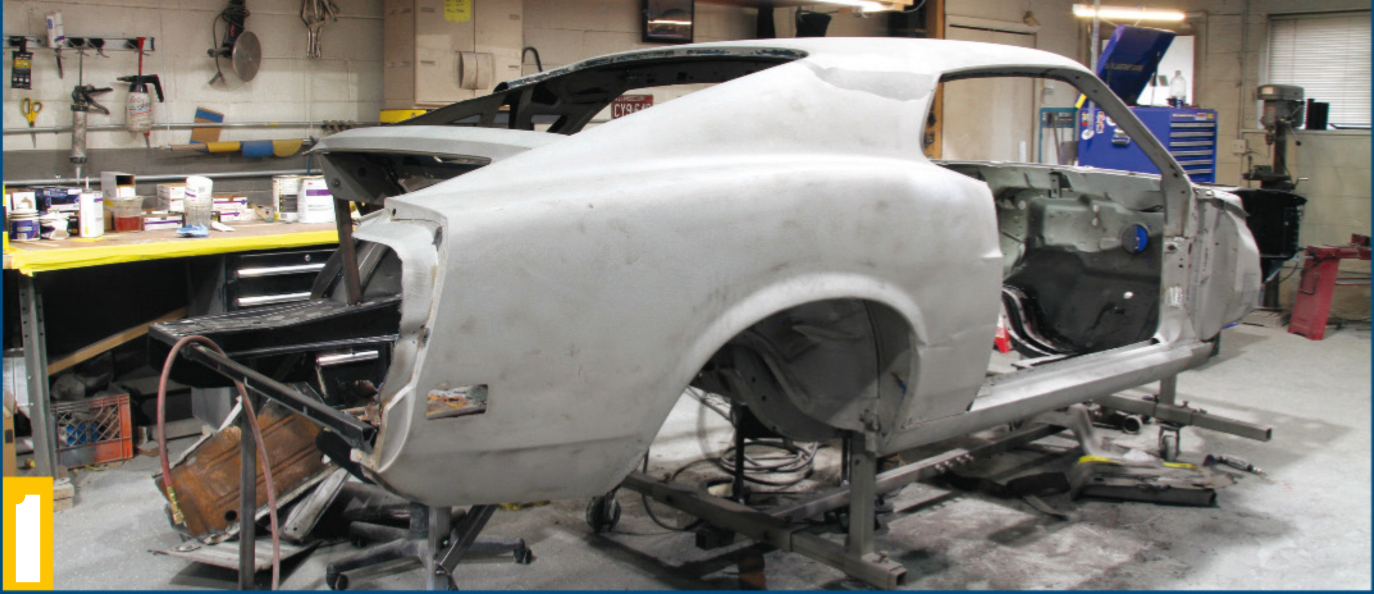
That was pretty much the case with the subject of this story's project: a 1970 Mustang that's gone under the knife at Detroit-area Ford restoration specialist Motorcity Grind. The car was from Mustang chassis and suspension specialist shop Street or Track and was in the shop for a complete restomod makeover. But before its suspension and drivetrain received their contemporary upgrades, the foundation had to be restored—starting with the rotted floor and driver's toe panel.

All Mustangs, of course, have unitized construction, which adds a bit of complexity to the project. There are spot welds that secure the floorpan to the underlying front subframe rails, crossmember brace (under the transmission tunnel), and rocker panels, which must be replicated to ensure the strength of the structure. With severe rust, the damage may permeate the front torque boxes and extend far enough rearward to affect where the floor is attached to the rear torque boxes.

Fortunately, the rear floor section on this project car was sufficiently solid. We also caught up with the project after the driver's toe panel had been replaced, leaving only the floor itself that needed attention.

All of this brings us to another aspect to consider: Is a floor replacement a DIY project? The welding isn't particularly complicated, even for those with little or moderate experience, but the job requires additional tools that might not be in everyone's toolbox, including a spot-weld cutter for a drill, long body panel vise clamps, a bodywork hammer, and an air hammer. A plasma cutter or cut-off wheel will also be needed to slice out the old floor.

The plasma cutter makes the job go much, much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quicker — and time is another component of the project to consider: A floorpan replacement done correctly will take a while to complete.

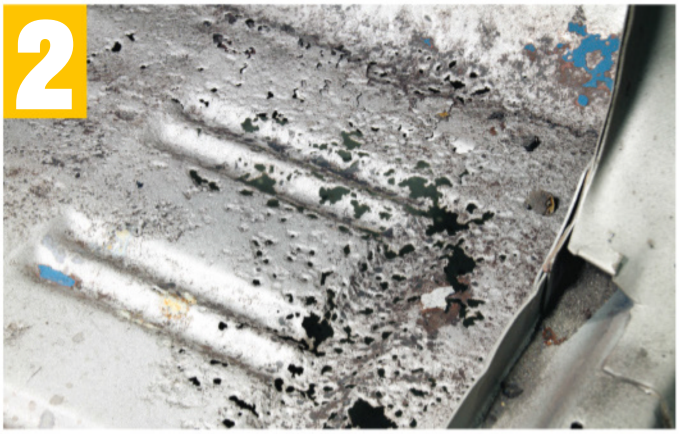
"We typically have 20-24 hours into a complete Mustang floor," Jim Chatas, founder of Motorcity Grind, says. "Even with a plasma cutter making quick work of most of the floor removal, there's a lot of time involved with cutting out the factory spot welds and replacing them in the new floor. It's a project that can't be rushed if you're going to do it right."

Doing it right in the shop was the responsibility of Keaton Smith, whom we followed from the first cut with the plasma cutter until the last weld was ground smooth — and it indeed took the better part of a week to complete.

It's worth noting that with this project, the entire car had already been stripped and sent to the media blaster. That meant all the interior components, including the carpet, sound deadening, and most of the seam sealer had already been removed. The same went for the dashboard. Simply tackling the project on a non-stripped car could have doubled the invested time.

Rust may never sleep, but it doesn't need to keep you up at night. Whether tackled at home or left to the professionals, a floor replacement will restore the solidity of your muscle car. Rest assured.

1. **The project car is a 1970 Mustang that was ravaged by rust, requiring replacement of the rear quarters, the trunk pan and related sheetmetal and, of course, the floor. The car is shown on a rolling fixture that has ensured the body is square and level — a must for tackling work that affects the car's structure.** **2.** **Here's a look at the rust damage in the floor, after the body shell returned from the media blaster. Motorcity Grind's Jim Chatas notes that even if the rust is concentrated mostly at the front, it's more efficient to cut out and replace the entire floor rather than doing spot repairs and small panel replacements throughout the floor.** **3.** **Before the first cut is made in the floor's removal, the edges are taped off to provide a guide for the cutter.** **4.** **In this case, a plasma cutter was used to make a rough cut around the edges of the rockers and frame rails and into the rear of the floorpan.**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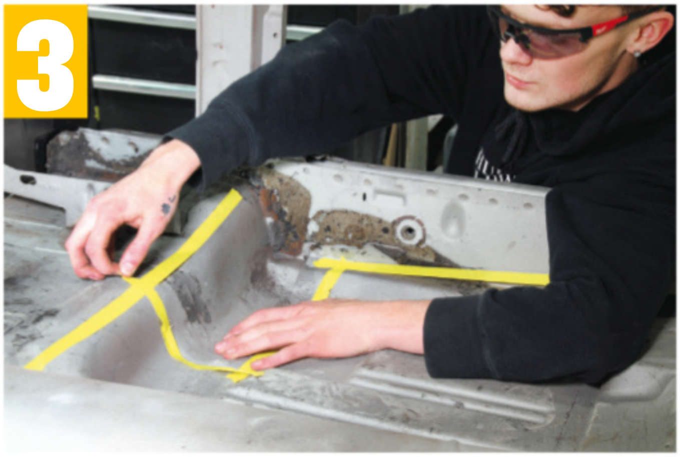
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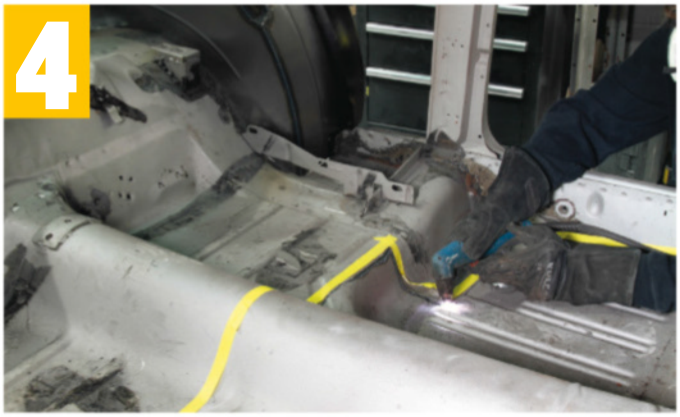
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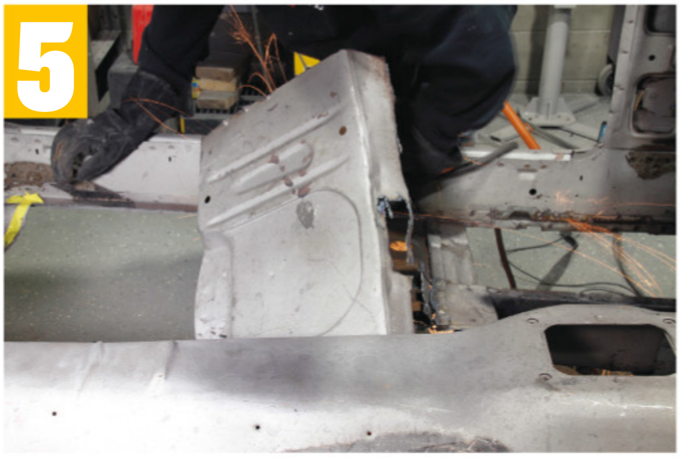
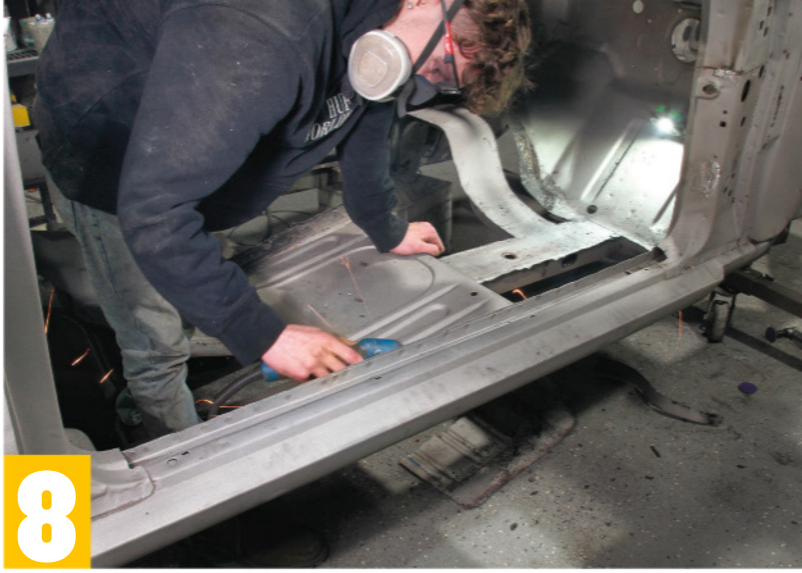
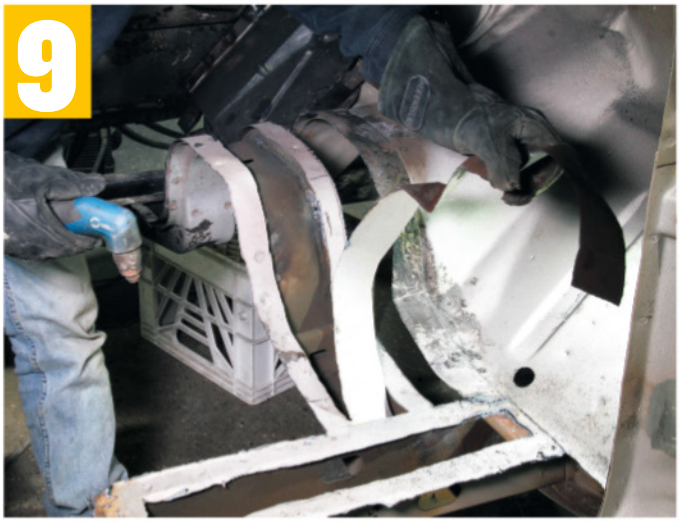
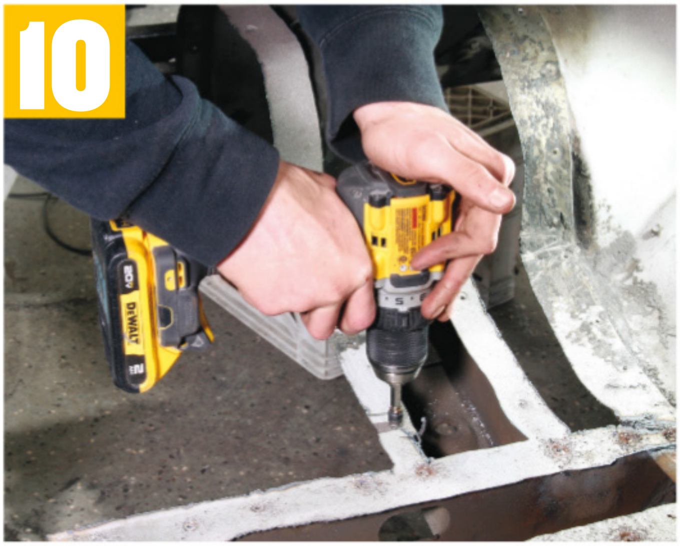
5. It's also easier to cut out the floor in sections rather than trying to cut it out as a single piece. **6.** At the front of the floor, more care has to be taken to cut along the outer edges of the spot welds attaching the floor to the subframe rails, while being mindful to avoid cutting into the rails themselves. The same goes for the crossmember and, depending on the project, the torque boxes. **7.** To make sure the frame rails aren't damaged, the front of the floor is cut from below, where the edges of the frame rails are visible.

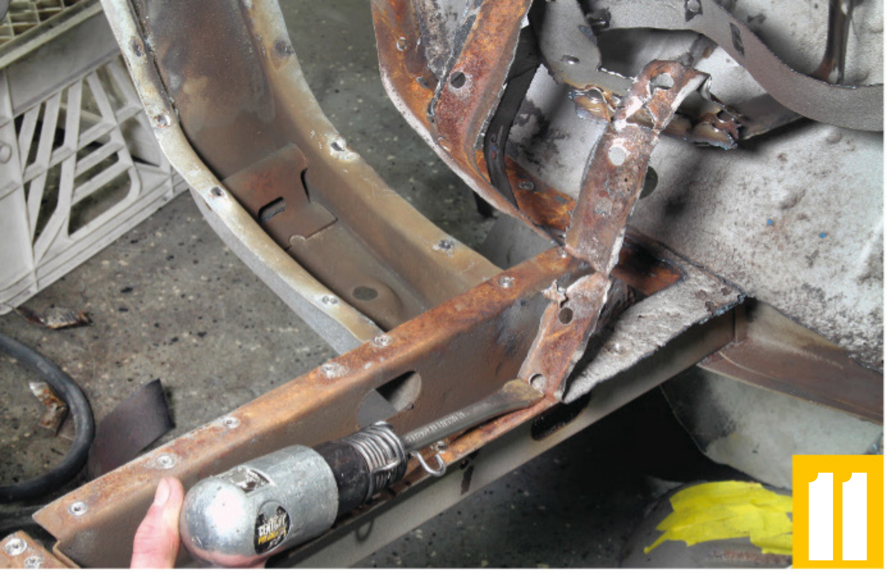








8. The last major section of the floor is cut out here, leaving factory spot-welded strips of it over the frame rails and the crossmember beneath the transmission tunnel. **9.** Cutting between the spot welds, the center sections of those strips are also removed, exposing the channels of the frame rails and transmission tunnel. **10.** After drilling pilot holes in the original spot welds, a spot-weld cutter tool attached to a drill is used to remove the spot welds without damaging the metal below them.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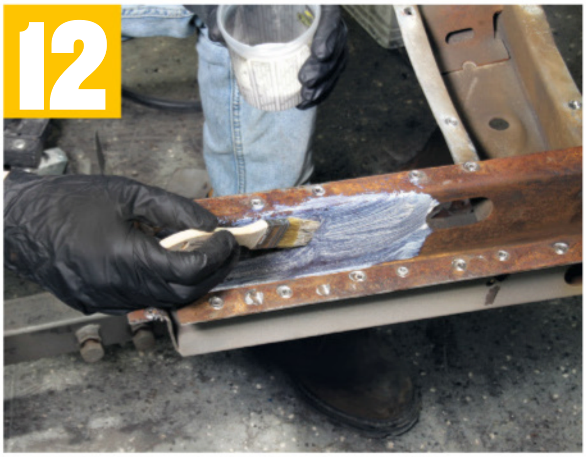
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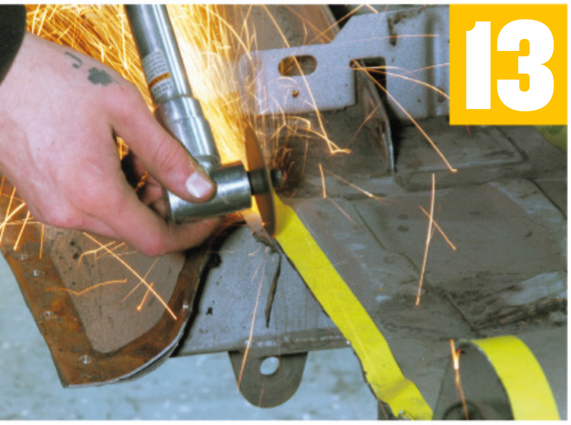
11. Next, an air hammer makes quick work of removing the strips from the frame rails. **12.** The insides of the subframe frame rails and crossmember are then cleaned up, sanded down, and treated with a rust preventative. **13.** At the rear of the floor area, a cut-off wheel is used to trim the edges left by the plasma cutter, leaving a straighter edge to butt-weld the replacement floorpan. **14.** Along the frame rails, the factory spot welds are also ground down to create a flat, smooth surface to attach the new floor. Fortunately, there was no apparent previous accident damage to contend with on this car.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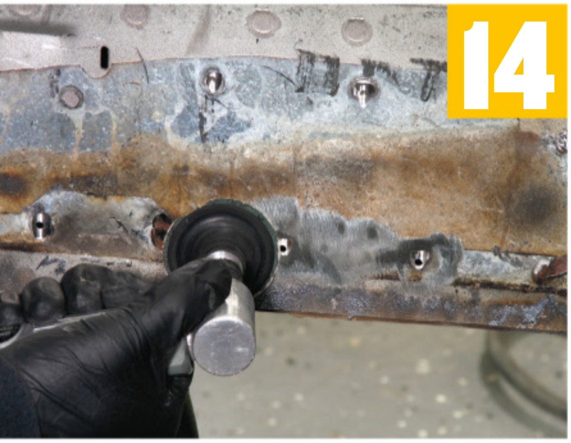
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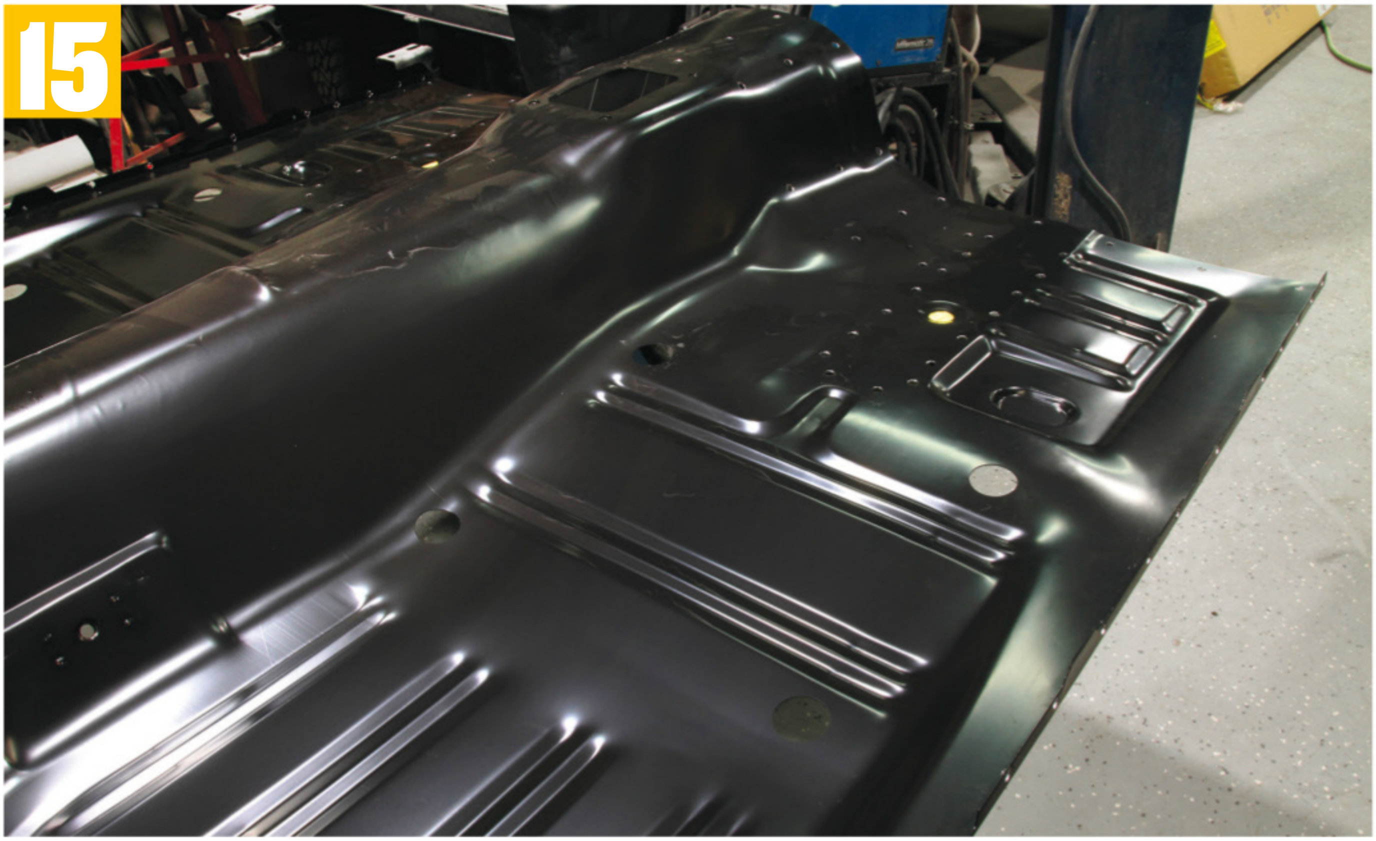

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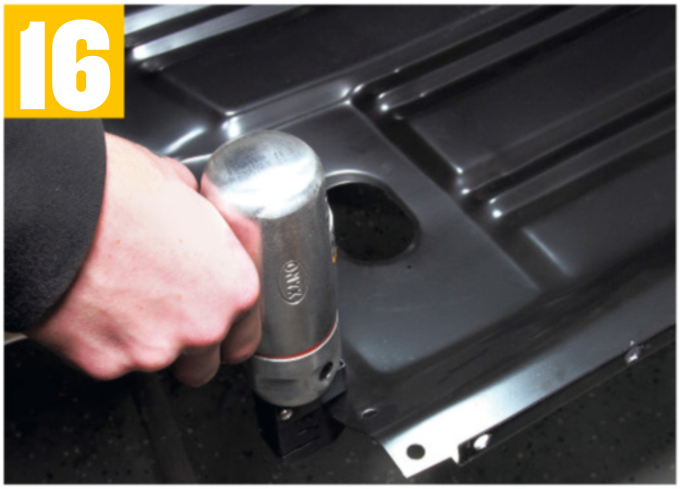

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15. Motorcity Grind got the new floor from Scott Drake, which is part of the Holley network of brands. Like most replacement sheetmetal, it was delivered wearing a black phosphate coating to prevent corrosion. The coating will need to be scuffed off in the areas where it will be welded. **16.** The floor also doesn't come with the spot-weld provisions, so the holes must be painstakingly added to the metal before the floor is installed. It's imperative to match the spots for the frame rails and transmission tunnel, while many restorers often add additional spots to the rocker sides, for a little extra strength. **17.** About 12 inches of the rear of the new floor was cut off, because that portion of the original floor was solid. Retaining that original portion meant Motorcity Grind didn't have to remove and replace mounting brackets for the rear seat, or deal with welding to the rear torque boxes, which saved time and money in the project. **18.** In goes the new floorpan—a task that's all but impossible if the doors are still attached to the body.

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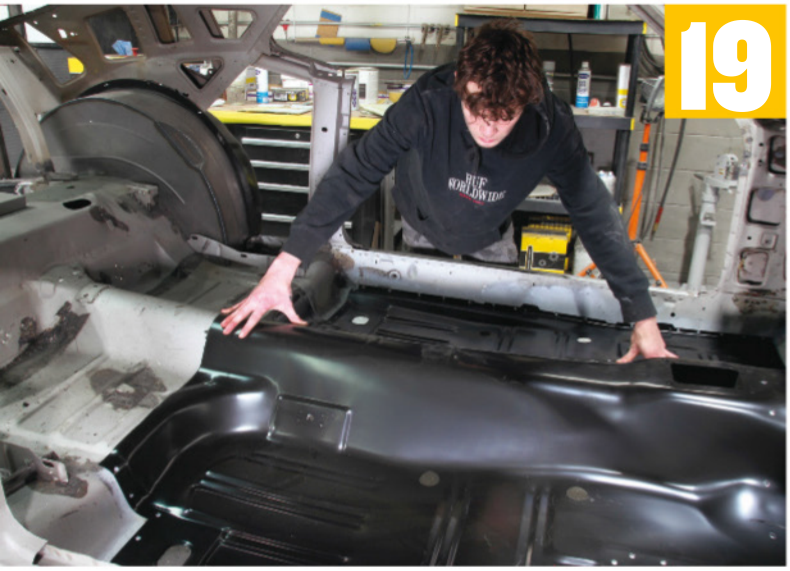

19. **The floor dropped in to place nicely and only minor manipulation was required to seat it properly. The rear of the pan overlapped the lip of the original floor slightly. It was intentional when the rear of the new floor was cut off, leaving a buffer zone of metal to trim more precisely once the new metal was in the body.** **20.** **Long vise-grip clamps designed for bodywork are used to hold the floorpan in place against the rocker panels.** **21.** **They're also used to snug the pan against the frame rails and transmission tunnel reinforcement.**

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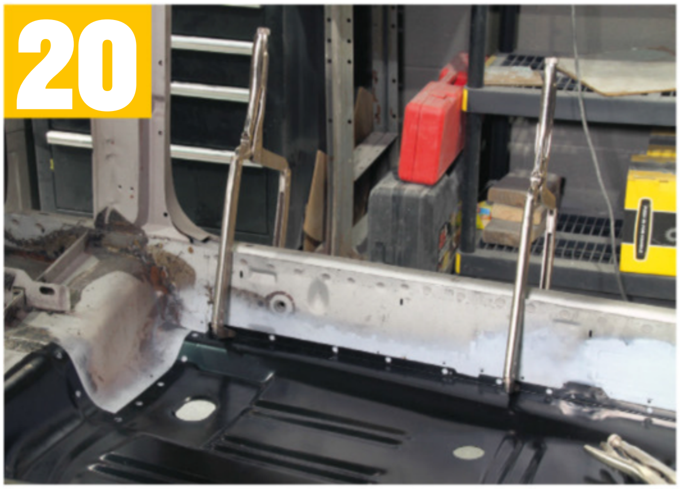

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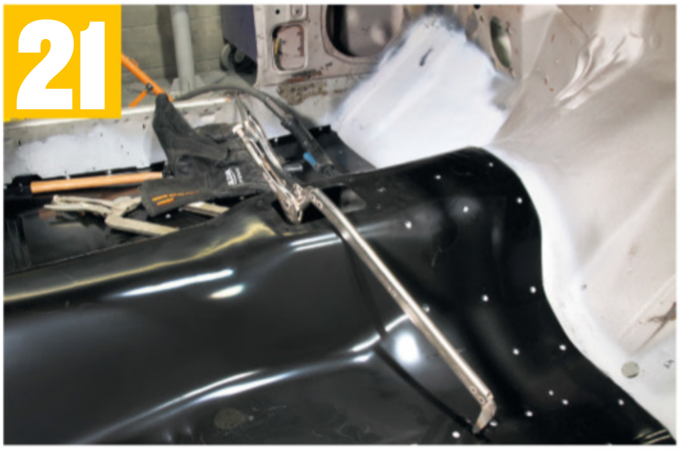

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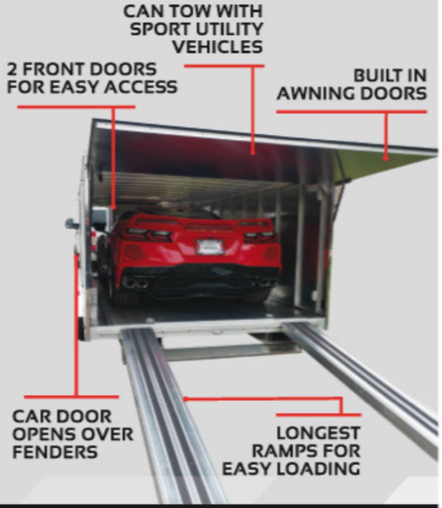

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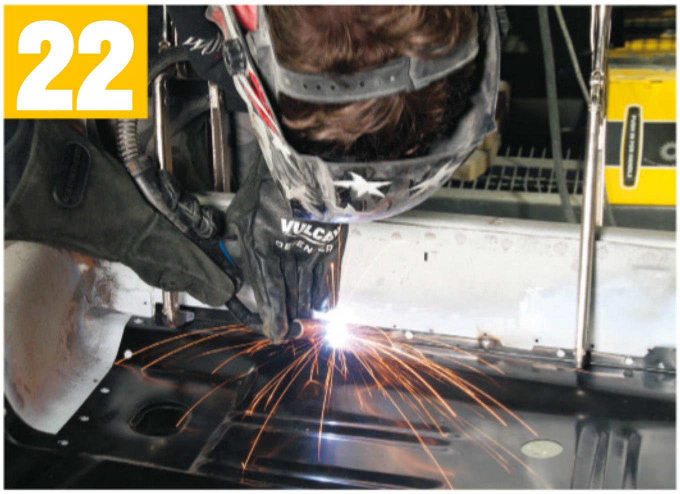
22. A few initial spot welds are made against the rockers to ensure the floor is secure. A MIG welder is used for the entire project. **23.** Next, a body hammer is used to eliminate as much clearance as possible between the new metal and the rockers. With some projects, the gap can be comparatively large, but fortunately, this new floor proved to be a pretty tight fit right out of the box. **24.** Now it's time to weld the floor entirely to match the factory spots on the frame rails and along the rockers, alternating the areas of welding to minimize heat build-up that could create warping.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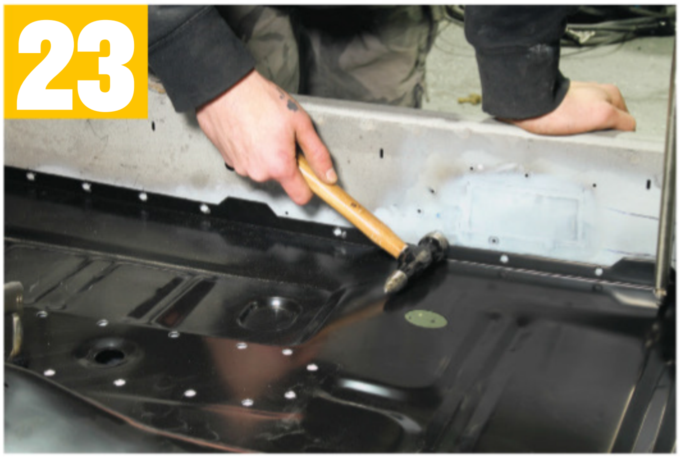
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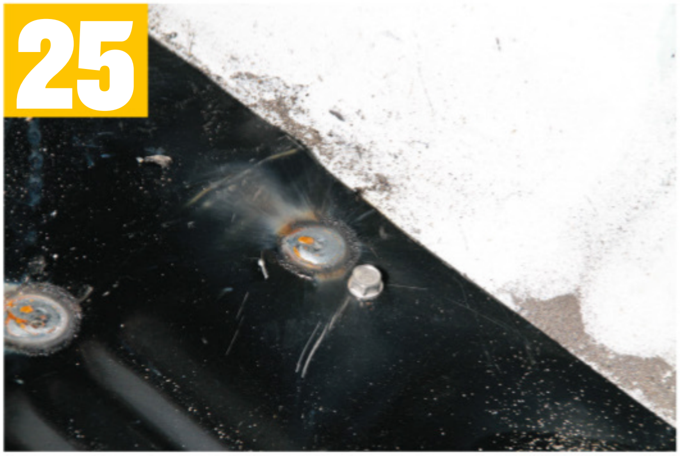
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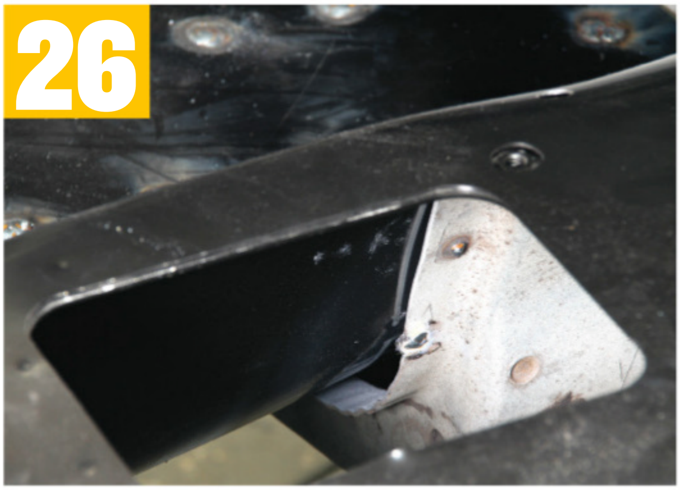
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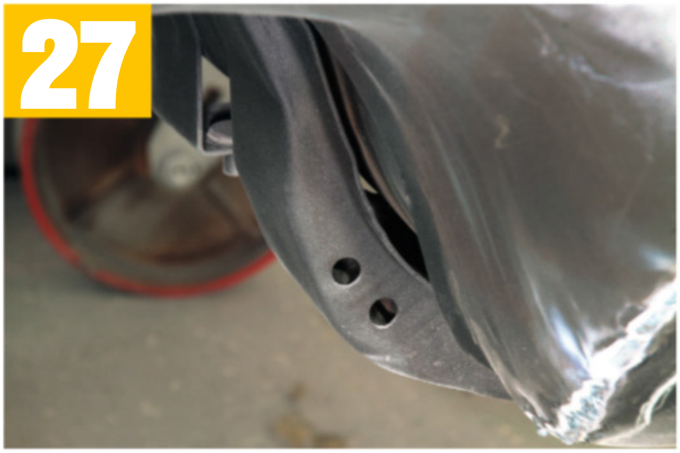
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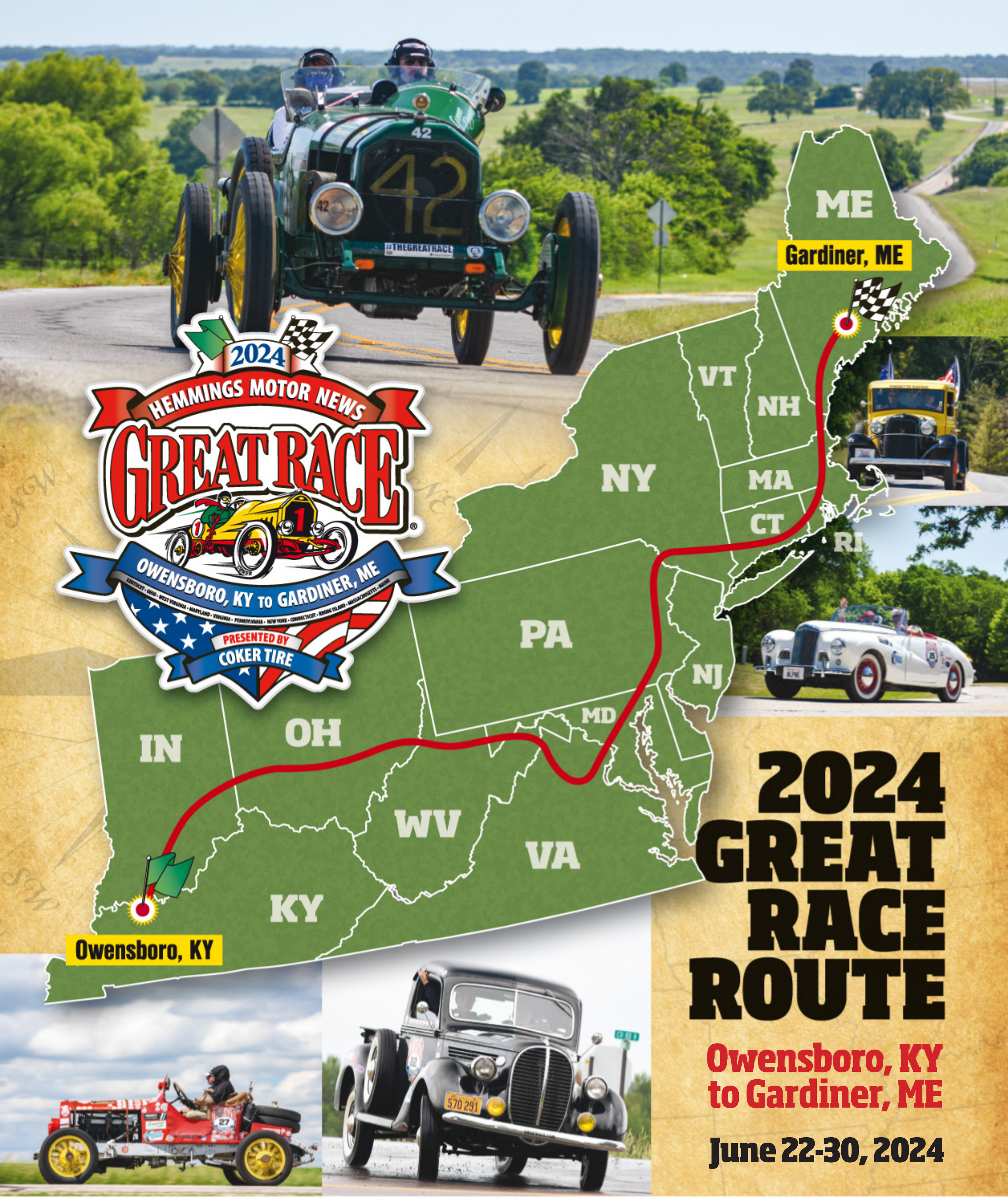
25. In some areas where the metal stubbornly refused to clamp adequately, a self-tapping fastener was used to cinch down the metal. After the spot weld was made, the fastener was removed and its hole was also welded. **26.** The toughest areas of the floorpan to secure on an early Mustang are the rounded corners at the bottom of transmission tunnel, where they meet the subframe crossmember. There's a pretty sizable gap seen here, viewed here through the shifter hole, but it's common even on original floors. **27.** This underbody view of another Mustang in the shop shows the gap in a car with its original floor. It was an issue when the cars were originally built and the best a restorer can do is hammer the pieces as close together as possible in order to facilitate the welds.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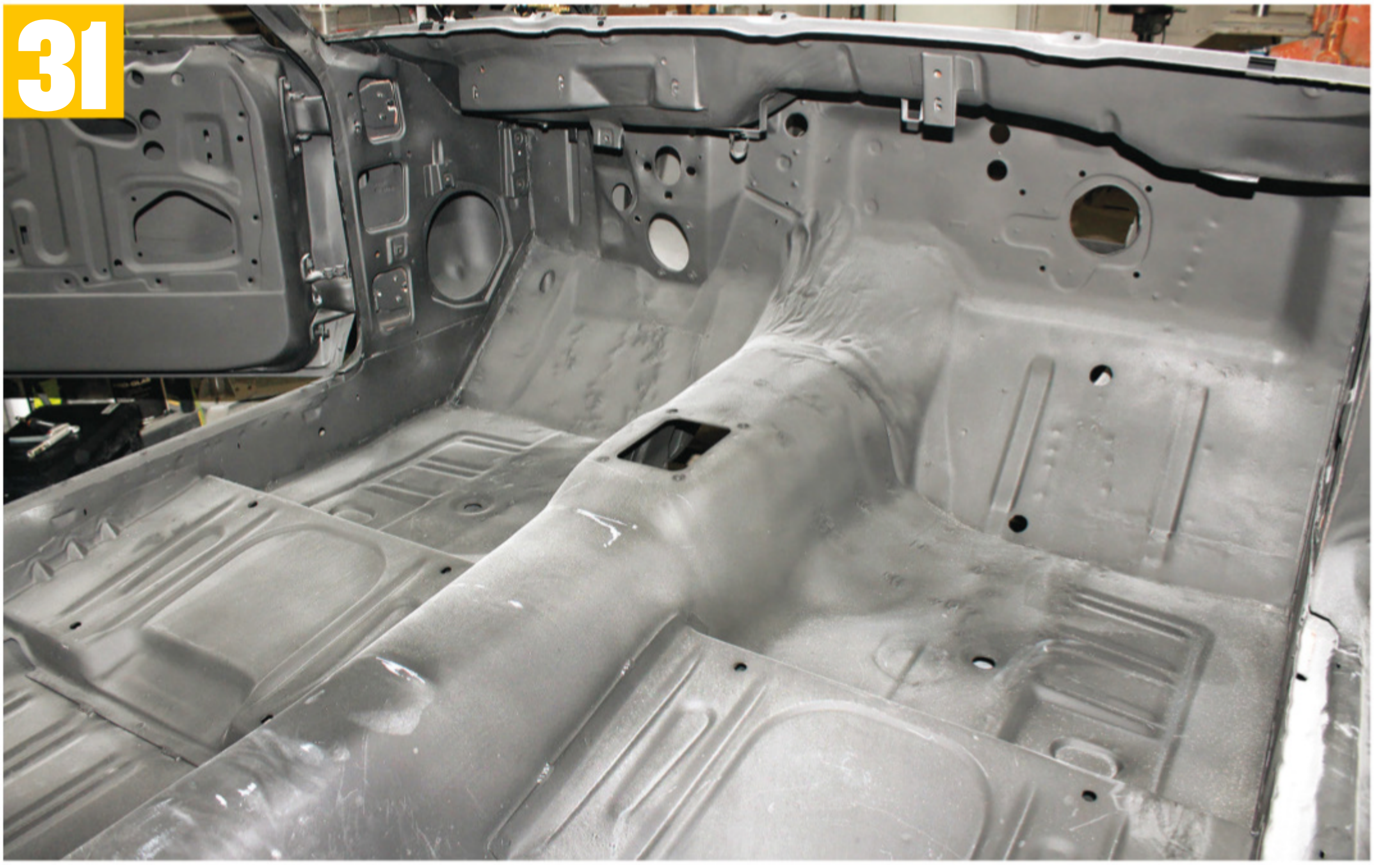
28. With the front and sides of the floor welded in place, work moves to the rear, where it is butt-welded against the existing section of the original floor. **29.** Next, the welds are ground smooth—and that includes all the other spot welds made during the floor's installation. **30.** There is still work to be done with the installation of new seat platforms, but the floorpan itself is now completely installed. **31.** Here, the seat platforms have been installed and the entire floor has been sprayed with epoxy to seal the new metal and welds. Job done. ■

SOURCE:

Motorcity Grind
248-495-3965
Motorcitygrindl7@gmail.com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ASK RAY

By Ray Bohacz

EXPANDING DWELL

Q: I bought a used Accel Digital Fuel Injection 6.0 ECU and harness on eBay that I'm planning to use on a 350 with Tuned Port Injection. I found that you wrote the book on that system, but it looks like the book is out of print, and I can't find one to buy. I do have the CalMap software on compact disc. I only paid $150 for the setup; do you think I should use it?

Pat Laudisi
Toms River, New Jersey

A: *You are correct — I wrote that book about 20 years ago and it is now only available as an ebook.*

However, I would have to say, you should not waste any money on an old Accel 6.0 system at this point. It was an excellent system in its day; time has moved on, and so has aftermarket programmable EFI. To program the DFI 6.0 system you have, you would need a 30-year-old 286 laptop to work with the CalMap software, because any computer from the past 25 years is way too fast for the CalMap program and will cause it to just lock up. Respectfully, these old systems are akin to buying a box full of eight-track tapes: If you still have the means to play them, you won. If not, just cut your losses and move to a more contemporary system. If you really need a programmable EFI system, there are options in the aftermarket today that are more sophisticated but also much easier to use and tune than the old DFI. As an alternative, you could put one of the great new carburetors on the 350 and call it a day!

STUMBLING TORINO

Q: I have a 1969 Ford Torino with a 390-cu.in. V-8. The engine was overhauled last year with the following parts:

- Comp Cams 270H cam and lifter kit
- Edelbrock Performer RPM intake manifold
- PerTronix electronic ignition
- Holley Street Avenger 670-cfm carburetor
- Dual exhaust

Since the engine rebuild, I have had a problem with an off-idle stumble. It occurs in the 800- to 1,000-rpm range, and is there when the car is accelerated or at a constant load. When I press on the gas and brake and keep the engine in the rpm range, it feels like it may be a miss. This could be a lean condition or an electrical issue. The idle vacuum is 14 inches of mercury and is pretty consistent. I have replaced almost everything, including the carburetor and distributor, and I've made various jet and timing adjustments. If I make the idle mixture screws richer, it seems to make the bog better, but then the engine surges at idle. I also question if the timing marks are correct.

I am at a loss for what to do and I live in a small town without access to a dyno or even a school shop class that is familiar with older cars. I am ready to pull my hair out. I hope that you can help.

Steven Ludwig
Via email

A: *When I read your letter, the first thing I wondered was, are you able to drive through the problem? Does the engine run fine from 2,000 rpm on up, or does the speed just help mask the problem? Without putting the engine on an ignition scope to see the firing events, your procedure is going to consist of replacing parts. The good thing is that you do not have that much more to try before fixing the engine.*

From your results, it seems the engine likes/wants a richer mixture. I am wondering if your Ford is suffering from an intake manifold gasket leak that could have been induced from milling the cylinder heads and engine block during the rebuilding process. Go online and find my The Lost Art Of... series that ran in HMM *many years ago and included installments on finding engine vacuum leaks, with testing procedures.*

You may want to go around the intake manifold and tighten up the bolts and then try to sneak a feeler gauge between the cylinder head and intake port. You may also want to try adding fuel to the carburetor with a propane tool or by forcing the choke plate slightly closed to see if the problem is impacted. What makes me suspect it is a vacuum leak is that you state the engine surges at idle. At one point you may want to remove the intake manifold and study the gasket for an even imprint to see how it is sealing.

What concerns me, and is more of an indicator of the rebuild, is that you have questioned whether the timing marks are correct. Any quality engine builder would have located and confirmed TDC while doing the final assembly and then marked the balancer accordingly. If that minor level of care was not taken, then I feel confident that the intake manifold was removed from the box and bolted on with no confirmation of its ability to seal against the cylinder head.

Another very real possibility is that the PCV system has the incorrect flow rate and response for the engine. This is much more common than many believe and has the potential to create an issue such as you are having. There is a company, M/E Wagner Performance, that makes an adjustable PCV valve. You may want to look into that, too.

BACKWARD MOTION

Q: In my opinion, *HMM* is the best all-around motorhead magazine out there. There are many varied and interesting cars and subjects in each issue. That is what does it for me.

My question is about a term I have never been able to get any mechanic to explain for me. In reading about the 1970s muscle cars, I often see statements such as, "The Plymouth Road Runner edition used the detuned 8.5:1 compression ratio engine." Please explain what is meant by "detuned" engines.

Ralph Barleib
Canton, Ohio

A: *Yours is a very good question and is probably a topic that has confused many others. By definition, a detuned engine is one that is calibrated to below the peak power potential of the amount of airflow that can be pumped through the cylinders. Every internal combustion engine is nothing more than an air pump. An engine that produces maximum power is one that takes advantage of the airflow. Thus, if you retarded the ignition timing from optimal, it would then be considered detuned.*

In the case of the 1970s muscle cars and engines in general, the term detuned was employed but had a slightly different meaning. During those years, government-mandated emissions standards were invoked, which caused Detroit to rethink the calibration (fuel metering and ignition advance), camshaft profiles, and compression ratios of its high-performance engines. This was also in response to the need for these engines to run well on lower octane fuel.

To fully comprehend the challenge, a basic understanding of exhaust emissions is in order.

There are three different emissions that needed to be addressed:

Hydrocarbons (HC), carbon monoxide (CO), and oxides of nitrogen (NOx).

CO, which is partially burned fuel, was and still is the easiest emission to control. Get the air/fuel ratio correct and the CO will be zero or very near that value.

HC is unburned fuel, and the engine design has much to do with its production. Within the combustion chamber there are areas that the mixture will travel to, but which the flame cannot. These are identified as the crevice region. The ring-land of the piston and the area around the spark plug are the greatest contributors to HC production. The amount of overlap in the camshaft profile is also a huge factor toward HC creation.

An inexpensive but undesirable method to decrease HC production is to retard the ignition timing at idle and light load. This causes the fuel to still burn when exiting through the exhaust port. This theory is not good for idle quality or part-throttle performance. It is effective at reducing HC with a piston or combustion chamber that creates a large amount of crevice volume.

NOx was and still is the hardest emission to conquer and is responsible for ground-level photochemical smog production. A byproduct of combustion, it is the result of pressure, heat, and exposure time. NOx is very difficult to minimize, especially with a combustion chamber that offers a slow flame speed.

The least expensive method to control NOx was to limit the compression ratio of the engine, since pressure is one dynamic of the equation. Also, it was discovered that if exhaust gas, which is inert, is introduced back into the combustion chamber, it would displace burnable mixture and lower NOx. The EGR (exhaust gas recirculation) valve performed this task. NOx production is the highest when the mixture is the leanest. That is during part-throttle operation. At idle and WOT, NOx is easier to control due to the mixture being richer and acting as a coolant.

It became a balancing act of playing with the calibration of the engine to meet these conflicting goals. Horsepower was the last thing considered.

The mistake Detroit made was trying to "Band-Aid" the older engines with inefficient but emissions-friendly calibrations instead of investing money in total redesigns. The cylinder-head and combustion-chamber style, plus the large bores used at that time, made the task very difficult. A modern combustion chamber should have been employed instead of myriad vacuum hoses, a low compression ratio, and a big-block engine that did not even produce 200 horsepower. To be fair, even at that time, the engineers knew what needed to be done, but the bean counters stopped them.

But that was then. Today we have clean and fuel-efficient high-horsepower engines. The investment was finally made to meet that goal rather than trying to patch up an old design. I hope this answers your question. ■

Send your troublesome tech questions to: askray@hemmings.com
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Bennington, VT 05201

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SWAP MEET

By Jim O'Clair

8-INCH FORD GEARING OPTIONS

Q: I recently bought a Fox-era Mustang circle track car with a 2300 (2.3-liter) four-cylinder engine, as well as an 8-inch differential that the previous owner installed. I ran across your article from many years ago and saw there was a 5.43:1 ring and pinion made for that differential at one point. What kind of vehicle did it come in and where can I get one? I want to run direct drive for obvious reasons, and this would be perfect! Any help would be appreciated very much — I've called just about everyone I know!

William Goolsby
Via email

A: *There were no original equipment 8-inch rear axles with ratios over 3.80:1 (WCL-P, WCL-C, WDK-E 1963-'64 Fairlane, WCS-D 1963 Falcon). The reference we made in the original article was that you could use the same differential carrier for 2.79 to 3.80 O.E. gears as well as larger gears up to 5.43, available from aftermarket suppliers. Yukon Gear shows 4.11 to 5.43 ring-and-pinion gear sets available in the aftermarket, part numbers F8-411 through F8-543, which could be installed using the stock Ford differential carrier. We should also add that none of the O.E. rear ratios mentioned in that article were equipped with Traction-Lok, Ford's limited-slip differential, although 8-inch, 28-spline Yukon Grizzly lockers are offered as aftermarket items.*

Yukon Gear
866-631-0196 • yukongear.com

NOVA 10-BOLT UPGRADES

Q: Love your magazine — all good information. I'm working on a 1973 Nova SS with a 10-bolt rear and 28-spline axles. Can you tell me what limited-slip or third-member rear would fit under this car? I am searching for a salvage rear, of course. Any help would be appreciated.

Dan Murphy
Flagstaff, Arizona

A: *You have a lot of choices on this one. The 10-bolt you have should be of the 8.5-inch variety, which Chevy started using in some Novas for 1971. This is a different axle than the 8.2-inch 10-bolt found in earlier Chevys. The 8.5-inch 10-bolt is a durable design and can be made more durable if rebuilt with a 30-spline differential, which GM started using in some trucks during the 1990 model year.*

The aftermarket offers new differentials for the 8.5-inch 10-bolt that are set up for 30-spline axles; Eaton, for example, offers its Posi (a clutch-type limited-slip, similar to what the factory had used) and its Detroit Truetrac (a gear-type limited-slip unit). If you were to rebuild your existing axle with a differential intended for 30-spline axles, naturally, you'll have to get 30-spline axle shafts. The aftermarket can help here as well—what you would need is essentially a '67-'69 Camaro 12-bolt axle shaft (which also uses 30-spline axles and has the same length as your Nova axle). If you want to go this route, consult with one of the axle companies like Moser Engineering or Yukon Gear.

If, for some reason, you need a different 8.5-inch 10-bolt axle housing, the one you'd need can be found under any of these models:

1973-'75 Apollo, Omega
1971-'75 Nova
1975 Skylark
1971-'75 Ventura

These axle assemblies were also used in 1977-'79 Nova, Omega, Phoenix, and Skylark, and 1977 Ventura. However, the disclaimer with the above axles is that you must exchange the driveshaft pinion flange as well if you select a non-Chevy donor. The leaf springs in your car should accept the above listed axles.

You could also easily swap in a 12-bolt assembly from a drum brake-equipped 1967-'69 Camaro or 1968-'71 Nova. The 1968-'69 Camaro 12-bolt disc-brake axle would also fit (though don't expect to find one of those in a junkyard). Axle widths and diameters should be interchangeable on all the axles listed here, but measure anything you are considering and compare it to what you have before committing to a purchase.

Eaton
877-386-2273 • eaton.com
Moser Engineering
260-726-6689 • moserengineering.com
Yukon Gear
866-631-0196 • yukongear.com

BIG BUICK DISC BRAKES?

Q: I have a 1969 Buick Le Sabre that's in need of a front suspension rebuild and it appears that some of these parts are not readily available. I'm having difficulty finding upper ball joints and tie rods. Would you know if there are any other GM models that have interchangeable suspension parts? Or a parts supplier that still has them? Second question: Do you know of any other GM models that would allow me to convert to front disc brakes? I know there are aftermarket conversion kits available, but I was wondering if there were any common parts with other models from 1969.

Gary Lee Happy
Via email

A: *Your easiest option for both questions is to locate a "knee assembly," which would include upper and lower control arms and spindles from a 1969 or 1970 full-size Buick or Riviera with factory disc brakes, as these would bolt right to your car and leave you with the correct spindles to use 1969-'70 full-size Buick disc-brake components. Unfortunately, knee assemblies from other full-size GM cars will not interchange. Upper control arms on 1966-'70 Buicks are make-specific and spindles fit only 1967-'70 Buicks. Lower control arms were also specific to 1969 and 1970 Buicks and Rivieras. As far as replacement components, Rare Parts sells the upper and lower ball joints and all four tie-rod ends (each one is unique — left, right, inners and outers — all different) as well as shocks and the coil springs.*

But even if you can locate the factory disc-brake spindles, there are other obstacles: The factory front disc-brake rotors for the '69-'70 full-size Buick and Riviera are not commercially available; calipers are tough to find as well. Only the '70 models used the single-piston sliding calipers. CARS LLC lists replacement brake pad sets and caliper rebuild kits, but does not have rotors. So, for a conversion, you may need to look to the aftermarket.

Rare Parts
800-621-2005 • rareparts.com
CARS LLC
908-369-3666 • oldbuickparts.com ■

All discussions in this column regarding repairs, conversions, parts swaps, etc. are offered as suggestions. Performing any such work should be accompanied by thorough research to verify proper parts compatibility and procedures to achieve a safe, functional result.

We welcome any and all questions related to suspension, brake, engine, differential and transmission upgrades.

Email us at swapmeet@hemmings.com or submit inquiries to our Facebook page, www.facebook.com/HemmingsNews or our website where comments can be made at the bottom of dozens of previous Swap Meet articles posted there.

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NEW FROM HEMMINGS: MAKE OFFER
Check out the latest vehicles listed:

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Asking Price $120,000

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1970 Mercury Cougar XR7 Convertible
Asking Price $181,500

MAKE OFFER

1971 Dodge Challenger R/T
Asking Price $82,500

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GEAR

By Mark J. McCourt

*Prices shown are presumed accurate at the time of printing.
Please confirm with seller prior to purchase.

1971 DODGE CHARGER SUPER BEE

HEMMINGS • 800-227-4373 X 79550
HEMMINGS.COM/STORE • $114.99

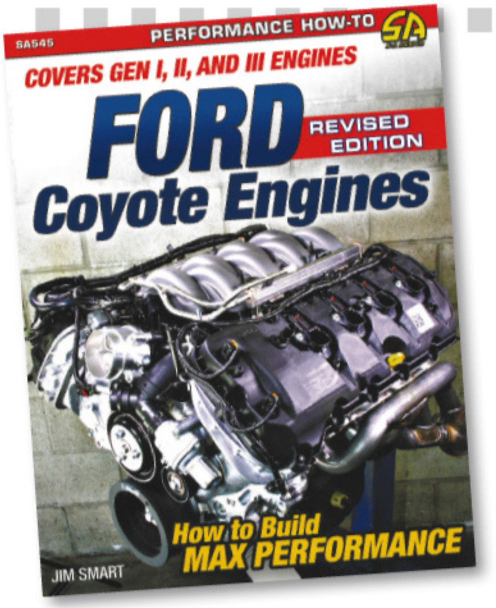
Dodge's popular budget muscle entry, the Coronet-based Super Bee, got a new lease on life for 1971 when it transitioned into a lower-priced—but still highly stylish—Charger. Having been redesigned for that year, the Super Bee added some audacious trimmings to the voluptuous Charger hardtop coupe. The model experts at AutoWorld have modeled the 1971 Super Bee in 1:18 scale (item AMM1260): it stands out in FJ6 "Green Go" paint with black sport stripes and cartoon Bee decals. Lift its faux-vented hood to see intricate fender tags and the detailed orange 383 Magnum V-8, one of four engines available that year. Behind the opening doors hide a woodgrain dash and console and realistic seatbelts, and the mat-lined trunk houses a spare Goodyear tire. This represents the last-best of the original Super Bees built, and it's a worthy tribute.

-1967-
GTO
-1967-
GTO

1967 GTO LICENSE PLATE FRAMES

ORIGINAL PARTS GROUP • 800-243-8355 • OPGI.COM • $26.99

Sometimes it's the small accessories that really set a car apart from all the rest. If you want to enhance the period vibe of your old-school muscle machine—especially if you run Year-Of-Manufacture license plates—you might consider fitting period-look plate frames like the ones available from OPGI. These frames, sold in pairs, are made of die-cast metal, not flimsy plastic, and are plated with genuine chrome. They feature white-painted raised lettering over a baked-on blue enamel texture field. The year is highlighted up top, with the model name on the bottom. This set of frames (item CRG0015) is the perfect accent for a '67 Pontiac GTO, but many other years and models are available for your 1960s-1980s Buick, Chevy, Olds, or Pontiac; prices vary depending on selection.



FORD COYOTE ENGINES

BY JIM SMART • CARTECH PUBLISHING • 800-551-4754
CARTECHBOOKS.COM • $34.95

While Ford's 5.0-liter pushrod small-block V-8 is legendary and its replacement, the overhead-cam "Modular" 4.6, earned a devoted following among Mustang enthusiasts, the company's engineers designed something even better in the ultra-modern 2011-up Coyote V-8 family. These world-class engines have been through three generations of development over the last 12 years, and Blue Oval experts have determined how to wring even more from them. Subtitled "How to Build Max Performance," the revised edition of the 160-page softcover (item SA545) by Ford expert and *HMM* contributor Jim Smart contains 12 chapters filled with hardcore, detailed information pertaining to every component category of this engine family. If you're tuning your factory-installed Coyote—revising the heads, swapping cams, adding forced induction, changing the exhaust—or tweaking a crate version, this book should be your primary resource.

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By Tom Comerro

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MOPAR MOTION

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MAHLEMOTORSPORTS.COM • $810/SET STARTING

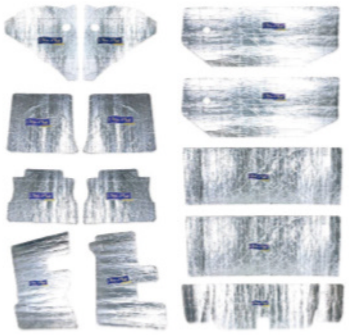
Add some kick to your Mopar on the street or at the track with these new big-block Mopar PowerPak piston sets. The new pistons are made to fit the big-block 383 and 400 B-series engines in a flat-top design, while the pistons for the 440-cu.in. RB-series engines feature a 25-cc dish and oversized valve pockets to accommodate larger valves and the extra lift of performance camshafts. Each piston is made of 4032 alloy with a slipper skirt forging; all are dual coated with a skirt coating and phosphate dry lubricant. Each set comes with a 1.5-, 1.5-, and 3.0-mm performance file-fit ring set, allowing for proper seal and minimal friction to get the best out of your engine. The sets also include steel wrist pins and retainer clips, and the pistons are available with a thermal barrier coating.

* * *

NOVA UNDERGARMENTS

STEELE RUBBER • 800-447-0849 • STEELERUBBER.COM • $399/SET

New heat- and sound-deadening sets are available for the 1966-'67 Chevy II and Nova SS. Each underlayment set is tailored to the specifications of the Chevy II with pre-cut pieces and direct-fit installation. The underlayment is made of a flexible and lightweight foil-faced foam rubber material that can curtail road noise inside the vehicle as well as provide an extra barrier of heat protection. The foil side is made to redirect the heat and radiation from the engine bay while the rubber structure reduces both heat and noise. The underlayment is effective up to 320 degrees and is made for function and durability. Each set contains pieces to fit the floor, doors, and quarter and roof panels. Inquire about p/n 70-4786-88 for more details.



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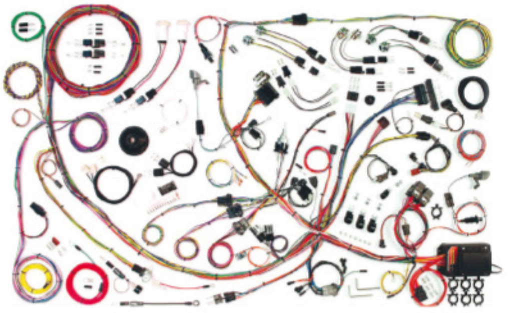


MUSTANG UPDATE KIT

AMERICAN AUTOWIRE • 866-657-2049 • AMERICANAUTOWIRE.COM • $1,399

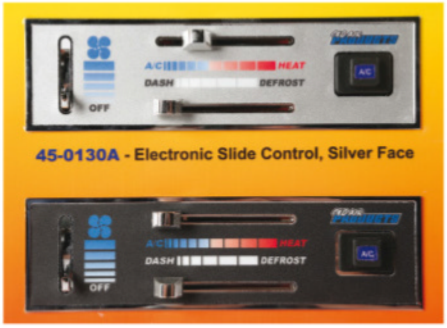
If you're looking to add more electrical circuits to your late first-generation Mustang to accommodate aftermarket upgrades, this versatile wiring update kit can make the process simpler. The Classic Update Kit is designed to easily rewire your 1971-'73 Mustang from front to back while providing plenty of options for add-on features such as EFI, aftermarket gauges, and more. Included are a new ATC fuse panel and fuses with GXL wire and functions labeled every 3 to 5 inches, as well as a pre-built dash harness and gauge cluster disconnect system for stock and aftermarket instruments. The accompanying engine and front light harness has extra-long leads for easy routing and newer engine and transmission pairings, while the steering column adapter kit will work with the steering column of your choice. Original-style connectors, terminals and lamp sockets are used throughout the kit for ease of installation. For more details, ask about p/n 510662.

* * *

SLIDE RULE

OLD AIR PRODUCTS • 817-531-2665 • OLDAIRPRODUCTS.COM • $265

Electronic slide controls are now available for cars with Old Air Products' Hurricane A/C, heat, and defrost systems. The control has a three-speed blower switch and two slides to activate the variable defrost and heater valve operation. A push-button operates the compressor and allows blending of A/C and heat for dehumidified defrost control. Each unit features a faceplate control, wire harness, and electronic bypass heater valve. They are for use with the Hurricane 1100-, 2100-, or 3100-series A/C heat and defrost systems, and are available in either silver or black. Look up p/n 45-0130A (silver) and 45-0130B (black) for more information.



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Sold for **$150,150**

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Sold for **$59,850**

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1992 Chevrolet Camaro RS
Sold for **$23,100**

2006 Dodge Magnum SRT8
Sold for **$23,888**

Sold thru
MAKE OFFER

1969 Ford Mustang SportsRoof Restomod
Sold for **$72,975**

2008 Ford Mustang Bullitt
Sold for **$28,875**

Going alphabetically, Bonhams wrung $30 million out of 125 available cars in Scottsdale on January 27; with 84-percent sell-through, that's a $285,714 average. RM Sotheby's on January 26, meanwhile, sold $44.87 million with 91 percent sell-through of its 88 cars for a $560,875 average.

BONHAMS, RM SOTHEBY'S

SCOTTSDALE 2023

AMERICAN POWER TURNING UP IN UNEXPECTED PLACES

WORDS AND PHOTOGRAPHY BY JEFF KOCH

BONHAMS' AND THE RM SOTHEBY'S SINGLE-DAY AUCTIONS, both of which take place in January in Scottsdale far away from floodlights and camera booms and the echo of cattle-rattle, are curious locations to find muscle cars—particularly when there are other auctions that seemingly specialize in them. Both auctions are largely known for their careful curation of cars for sale. While the bulk of the lots appear to be full Classics, European sports cars, and the like, the truth is that if a muscle car—or a hybrid featuring exotic Euro sheetmetal but a throbbing all-American engine at its core—appears at one of these houses, there has to be something extraordinary about it. Ample provenance from new and interesting history is frequently par for the course; you're not going to find some too-shiny puppy-mill Bondo baby running over the transom at either of these events. Because there are fewer of them at sales that offer maybe a hundred cars, it means that what's there stands out even more because there's nowhere to hide. It also means that anyone who grumps that auctions have taken the car hobby out of the everyman's hands are going to have a whole lot more to grump about—these are indeed high-end events.

BONHAMS: THE NUMBERS

Total Sales: $30 million
Sell-Through: 84 percent
Average Sales: $285,714
Top Muscle Machine Sale:
1957 Chrysler Ghia Super Dart 400, $819,000

UPCOMING AUCTIONS

August 18: The Quail Auction,
Monterey, California
bonhams.com

RM SOTHEBY'S: THE NUMBERS

Total Sales: $44.87 million
Sell-Through: 91 percent
Average Sale: $560,875
Top Muscle Machine Sale:
2017 Ford GT, $907,000

UPCOMING DATES

August 18-19: Monterey, California
rmsothebys.com
954 566 2209

LEGEND

Condition: #1 = Excellent; #2 = Very Good; #3 = Average; #4 = Poor; #5 = Major Project

Reserve: Minimum price owner will accept

High Bid: The highest offer made (but vehicle did not sell) *

Selling Price: What the vehicle sold for *

Average Market Range: Values based on current market trends for vehicles in #2- to #1 condition, respectively

Both houses command a 12 percent buyers' premium up to $250,000; with 10 percent on any amount over the initial $250,000

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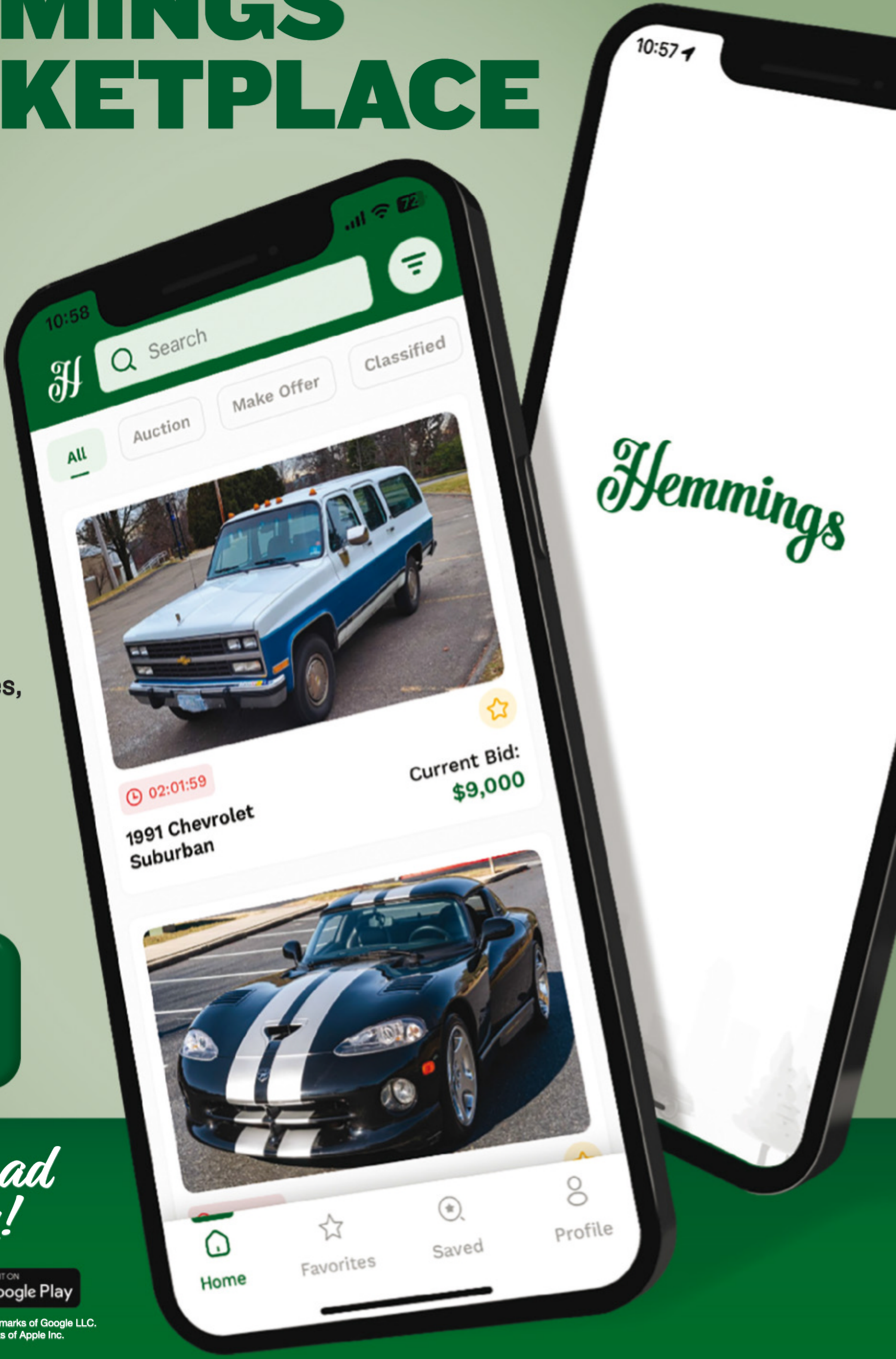
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AUCTION BONHAMS

1954 CHRYSLER

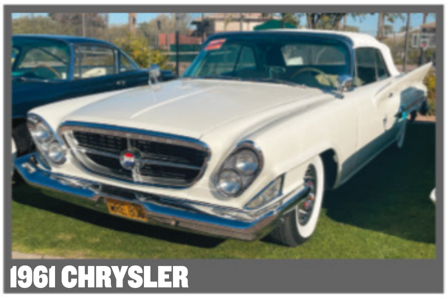
MODEL: Ghia GS-1
CONDITION: Restored/#1
RESERVE: Undisclosed
SELLING PRICE: $802,500
AVG. SELLING PRICE: N/A

Chrysler (and its lead stylist, Virgil Exner) had a protracted dalliance with the Italian style house Ghia in the '50s and '60s, back in the days before the name meant more than a plush Ford trim level. Sporting a 331-cubic-inch Hemi and styling to match its power, the example offered was one of nine built, with five known to exist today. A three-time Pebble Beach entrant (and award winner), this Chrysler was up to show-car standards and presented as better-than-new in every facet we could see at the event.

1957 CHRYSLER

MODEL: Ghia Super Dart 400
CONDITION: Original/#2-
RESERVE: Undisclosed
SELLING PRICE: $819,000
AVG. SELLING PRICE: N/A

This custom show car, the Super Dart 400, rested on a 1957 Chrysler 300C chassis and packed a dual-four-barrel-fed, 10:1-compression 392 Hemi estimated to pump out 400 horsepower. It was unrestored with less than 50,000 miles on the odometer. We can't pretend that it presented perfectly: Chipped steel wheels, some cracking original lacquer paint, and some pitted chrome on the front fenders were all strikes against the Super Dart's otherwise remarkably preserved condition. And so, the price. Easily six or seven times the price of a stock production 300C, but who could put a price tag on this when it's the only one ever made? It's a lot of money, sure. Go find another one.



1961 CHRYSLER

MODEL: 300G
CONDITION: Restored/#1-
RESERVE: None
SELLING PRICE: $123,200
AVG. SELLING PRICE: $200,000

Chrysler's 300 Letter Car line was not for everyone: These special models combined sport and poise in a way that most American cars of the era simply didn't, melding power and handling into a single surprising (and expensive) package. One of just 337 built for the year, this 300G convertible possessed a 413-cu.in. V-8 fed by dual four-barrel carbs atop the outrageous cross-ram intake. While the early history of this example wasn't known (or at least wasn't discussed), this recent restoration presented as new — not overdone as is too often seen, but seemingly correct for the era. Maybe that lack of provenance had a hand in the under-average but still-six-figure sale price?

1971 PLYMOUTH

MODEL: Hemi 'Cuda
CONDITION: Restored/#1
RESERVE: Undisclosed
SELLING PRICE: $417,500
AVG. SELLING PRICE: $900,000

We weren't sure what to think here. First, this was one of 60 Hemi/four-speed '71 'Cudas built, which must account for something. Single family owner from new, yes — the consignor's father (who ran the Danish Plymouth import business) ordered the car for European delivery, which makes this possibly the only export '71 four-speed Hemi 'Cuda coupe ever. He then proceeded to race it around Scandinavia — so there was racing provenance. The restoration, which took six years and was completed in 2014, brought it back to as-new condition — everything appeared correct and not overdone. Was this the wrong place to bring this car, or was the great half-price Hemi sale afoot?

1987 BUICK

MODEL: GNX
CONDITION: Original/#2+
RESERVE: None
SELLING PRICE: $184,800
AVG. SELLING PRICE: $140,000

The odometer read 21.5 miles, and there was absolutely no reason not to believe this was the case. (Delivery-mileage cars usually sell for multiple times the average selling price; we suspect that because so many GNXs were immediately squirreled away as instant collectibles, low-mileage examples don't have the impact they otherwise might.) The front bumper filler was appalling — losing all its gloss and cracking like peanut brittle, and the polish job had us thinking that the polisher needed to clean his equipment so that he might get rid of the non-factory scratches.

1996 DODGE

MODEL: Viper GTS
CONDITION: Original/#1
RESERVE: None
SELLING PRICE: $98,000
AVG. SELLING PRICE: $135,000

What the Shelby Daytona coupe was to the original Cobra, the Viper GTS was to the Dodge Viper: an aero-friendly coupe roofline designed to stiffen the chassis and cut wind resistance. No wonder it paced the 1996 Indianapolis 500. The GTS also predicted some other future Viper upgrades including a rear-exit exhaust and a power bump to 450 horses. This example had gone fewer than 4,000 miles in its lifetime and its presentation was commensurately factory fresh. Within five percent of average retail was paid for what was clearly a nicer-than-average example of the breed.

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AUCTION RM SOTHEBY'S

1956 CHRYSLER

MODEL: 300B
CONDITION: Restored/#1-
RESERVE: None
SELLING PRICE: $145,600
AVG. SELLING PRICE: $85,000

This immaculate 300B was a multiple ISCA award winner a decade ago, when its restoration was still fresh. It still appeared as new when we got to see it in the Scottsdale sunshine, save for the wire wheels that every big Chrysler now seems to wear in lieu of original wheel covers. What we were keen on seeing was the result: a good 75-percent north of the average. Was the presentation really that spectacular that two people went head-to-head until the larger will and wallet won? Or did the relative rarity (barely 1,100 built, compared to 1,725 for '55) catch their attention?

1970 FORD

MODEL: Mustang Boss 429
CONDITION: Restored/#1
RESERVE: Undisclosed
SELLING PRICE: $280,000
AVG. SELLING PRICE: $440,000

Are there any Boss Mustangs left that haven't been restored to as-new condition? This was one of 1,358 Boss 429s built, one of 499 in 1970, and one of 52 in Grabber Green for the year. It featured both power steering and front disc brakes — not to mention the vaunted Drag Pack and Competition Suspension. Original documents and a trail of previous owners (some of them known in the hobby) were part and parcel of the presentation. Everything appeared fresh on the undated restoration — just as it was delivered to Minar Ford in Minneapolis when new. A better-than-average car that sold for below-average money.

1969 PLYMOUTH

MODEL: GTX
CONDITION: Restored/#1
RESERVE: Undisclosed
SELLING PRICE: $190,400
AVG. SELLING PRICE: N/A

This was a car so rare — just an estimated five GTX drop-top Hemi/four-speeds were built — that there is no value information available. This one had a date-correct, if not original, block under the hood. It was a true Hemi car, judging by the J in the VIN. Otherwise, it was hard to believe that this restoration was pushing 20 years old. Mirror-deep paint, blinding chrome, and a surprising number of comfort options (radio, power steering and brakes) that offset the stripper/sleeper nature suggested by the "pie-pan" wheel trims. Would some early history spelled out in the documents have sent this one barreling north of $200k? Where are the other four? Will this one set the standard?

1967 CHEVROLET

MODEL: Corvette Sting Ray
CONDITION: Restored/#1
RESERVE: Undisclosed
SELLING PRICE: $168,000
AVG. SELLING PRICE: $161,000

Usually, we look slightly askance at the first cars to run over the block at any auction, as if they were appetizers before a meal—wouldn't the best examples roll out closer to prime time? But when there are only 88 cars available on the day, there isn't a lot of time for messing about, so placement in the lineup becomes less of an issue. Such was the case for this '67 Corvette. The NCRS Top-Flight award-winning big-block, four-speed coupe featured 4.11 gearing, off-road exhaust, and mile-deep Goodwood Green paint. (The Starburst wheels were admitted repros.) It had a known history since the early 1990s, and sold bang-on for the high-average sale price, which should have pleased all concerned.

1968 SHELBY

MODEL: G.T. 500KR
CONDITION: Restored/#1-
RESERVE: Undisclosed
SELLING PRICE: $162,400
AVG. SELLING PRICE: $180,000

It was the kind of Shelby that Carroll fought Ford to not build. Big-block power in lieu of a small-block, for handling reasons. Automatic transmission. Painted green with white stripes, rather than white with blue stripes. Power steering and brakes. A rating—335 horsepower— that understated things rather than boasted about its output. An interior decor group? As "impure" as it might be, there's little questioning that history looks upon the G.T. 500 (and the later KR) rather differently. Today they're seen as best-of-the-era GT cars, with luxury and swagger in equal numbers.

1965 SHELBY

MODEL: 427 Cobra
CONDITION: Restored/#1
RESERVE: Undisclosed
TOP-PRICE BID: $2.2 million (not sold)
AVG. SELLING PRICE: $3.2 million

You want history? This Cobra, CSX3011, is the only one of the initial batch of 19 Competition Cobras that wasn't pre-sold to a privateer racer. It appeared on the cover of *Sports Car Graphic* and starred with Elvis Presley in his 1966 film *Spinout*. It was then part of the Cobra Caravan that traveled across the country. Its past is well known. Even in rough shape, it's a celebrity... but here it appeared as new. While $2.2 million is an eye-popping amount and was in line with the high average for non-Competition model sales of this car's quality, the house estimated a sale north of $3 million, with the high-end average closer to $4 million.

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AUCTION NEWS

By Tom Comerro

MECUM

PEBBLE BEACH QUAD SQUAD

A foursome of auctions will take place during Pebble Beach weekend in Monterey, California, with a sampling of muscle cars for all tastes. First up, Mecum's Monterey Auction will feature more than 600 vehicles available for bidding. Among the early consignments are two special Dodges, a 1969 Dodge Charger Daytona Hemi and a 2000 Viper RT/10 Roadster. The Hemi Daytona is thought to be one of 70 made and is said to retain its original drivetrain along with its factory sheetmetal. The numbers-matching Hemi is mated to a 727 TorqueFlite and its meticulous restoration featured date-correct NOS parts. The Viper shows just 21,474 miles on the odometer and the two-owner car was garage kept and is currently in unrestored condition. One of 840 made for the 2000 model year, it features a mild Flowmaster exhaust but retains mostly factory parts including exhaust tips, factory tires, owner's manuals, and original spare. Both Mopars will be up for sale August 17-19 and a full array of pictures is now online at mecum.com.

Gooding & Company is the official auction house of the Pebble Beach Concours d'Elegance and has often featured a smattering of American muscle among the pre-war classics and Ferraris that tend to make up its event dockets. Last year's auction saw total sales of $109-million with a "Big Tank" Corvette and a split-window coupe changing hands. Among the later-model performance cars sold were a 2006 Heritage Edition Ford GT and a 2019 Ford GT. This year's auction will take place August 18-19 and the early consignment list can be found at goodingco.com.

RM Sotheby's will return to Monterey August 18-19; these events usually feature more than 150 cars up for bidding. The RM Sotheby's Monterey auction tends to lean more toward supercars and modern high-performance vehicles, but now and again some classics from the '60s will pop up, including a 1966 Shelby G.T. 350 H that sold for $280,000 and a 1965 Buick Riviera GS for $100,800. The upcoming auction can be viewed at rmsothebys.com.

Finally, Bonham's The Quail Auction will take place again at the Quail Lodge and Golf Club in Carmel. Last year's event saw several C2 Corvettes sell as well as some offbeat muscle, with a 1961 Chrysler 300G convertible hammering home at $151,200. This year's auction will take place August 18. Visit bonhams.com for more details.

MECUM

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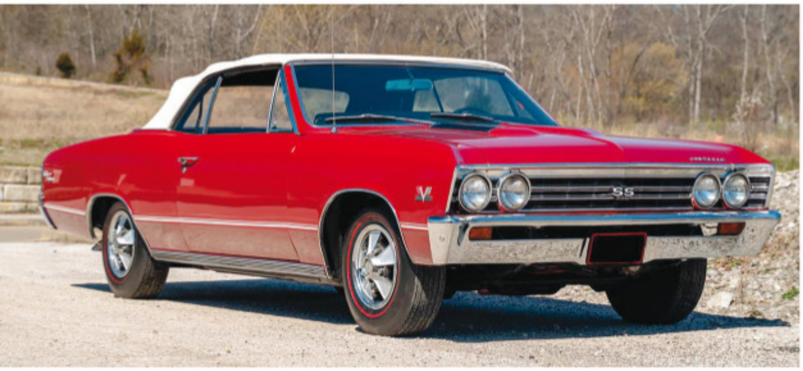
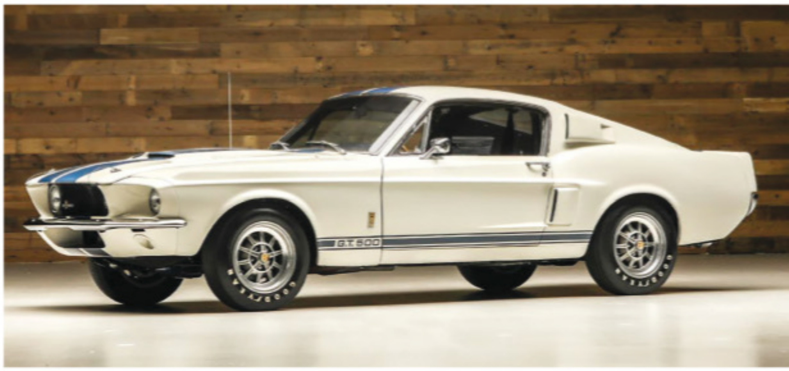
July 28-30	**Performance Blue Suede Cruise** Norwalk, Ohio • 419-668-5555
Aug 4-6	**Das Awkscht Fest** Macungie, Pennsylvania • 610-967-2317
6	**Long Beach Hi-Performance Swap Meet** Long Beach, California • 800-762-9785
10	**Hemmings Cruise-In** Bennington, Vermont • 800-227-4373
10-12	**AACA Grand Nationals** Bettendorf, Iowa • 563-340-3266
13	**Pomona Swap Meet** Pomona, California • 714-538-7091
19	**Woodward Dream Cruise** Oakland County, Michigan woodwarddreamcruise.com
20	**Pebble Beach Concours d'Elegance** Carmel, California • 831-622-1700
23-26	**New England Auto Auction** Owls Head, Maine • 207-594-4418
24-26	**Corvettes at Carlisle** Carlisle, Pennsylvania • 717-243-7855

Please note that these events are active as of press time.
We recommend you verify the status before making plans to attend.





WORLDWIDE AUCTIONEERS

WORLDWIDE ENTHUSIAST AUCTION

Worldwide Auctioneers finished up a successful Enthusiast Auction April 23-24 in Auburn, Indiana, with a handful of muscle cars finding new owners. A 1967 Shelby G.T. 500 was among the vehicles to trade hands; the fastback had received a full restoration during the past decade. It was finished in its original Wimbledon White with blue stripes and it had its original engine—overall it was just as it had been when delivered new from Koons Ford in Falls Church, Virginia. Some other features included factory power steering, power brakes, original Philco AM radio, and 10-spoke alloy wheels with new Goodyear Speedway 250 R70x15 tires. One deviation was the four-speed transmission, installed by a previous owner to replace the original automatic. The final touch on the dash panel was the signature from the man himself, Carroll Shelby. When the bidding ended, the Shelby sold for $161,280.

Also selling at Worldwide was a fully documented 1967 Chevelle SS convertible. The legit 138-code car still had its numbers-matching powertrain, including its Turbo Hydra-Matic transmission. Other factory-installed features included a tinted windshield, push-button radio, power steering, and power brakes. Some changes and aftermarket accessories included mag-style wheel covers, Equus gauges under the dashboard, and a period-correct 1960s Audiovox FM radio tuner-converter that was compatible with the factory AM radio. Its most recent restoration took place in 2018 and included a repaint of the factory Bolero Red with a new white top and a complete rebuild of the 396-cu.in. V-8. The Chevelle rolled off the block to its new home for $81,200. Full results from the Worldwide Enthusiast Auction are now available at worldwideauctioneers.com.

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HEMMINGS AUCTIONS IS OUR LIVE, ONLINE AUCTION site staffed by customer service professionals ready to help bidders and sellers with any questions. A wide variety of classic and specialty vehicles from all eras are up for bid. Auctions run for two weeks, and qualified bidders place their bids electronically. Once a vehicle is accepted into the auction, the seller pays only a $99.95 listing fee. The winning bidder is responsible for a 5-percent fee on all completed auctions. The following are examples of auctions that transpired during the month leading up to press time. If you have questions, comments, or suggestions, email Director of Auction Operations Terry Shea: terryshea@hemmings.com.

1972 BUICK GS 455

RESERVE: $85,000
SELLING PRICE: $94,500

RECENT MARKET RANGE:
$75,000-$105,500

While its power output may have been down for 1972, Buick's GS 455 had pleasantly uncluttered styling and ample comfort that year. This numbers-matching Stage I convertible enjoyed a documented restoration that netted it numerous concours awards, and its condition at the time of the listing appeared showroom fresh. The stylish Flame Orange paint and Parchment vinyl-upholstered interior had no noted flaws, and equipment included working A/C and an 8-track/AM radio sound system. The eponymous 455-cu.in. V-8 and column-shifted TH400 transmission were rebuilt and worked properly. Five videos and a huge selection of photos were instrumental in the rare Buick achieving a fine hammer price.

1968 AMC RAMBLER AMERICAN ROGUE

RESERVE: $15,000
SELLING PRICE: $15,750*

RECENT MARKET RANGE:
$12,100-$19,600

Before the nameplate was co-opted by a milquetoast crossover, "Rogue" was AMC's sporty V-8-powered Rambler. That badge graced this American two-door hardtop, which was said to have recently been restored after spending years off the road. New basecoat/clearcoat paint and a fresh vinyl roof skin were applied over solid sheetmetal, and seals were renewed at the same time. The two-tone interior looked attractive in photos and all its accessories functioned without issue. Underhood, the 290-cu.in. V-8 was believed to have been factory-installed, and it had traveled around 1,500 miles since being rebuilt. The adjacent three-speed automatic had a small leak. It sold well as a Make Offer listing.

1970 CHEVROLET CHEVELLE SS 396

RESERVE: $53,000
SELLING PRICE: $65,100

RECENT MARKET RANGE:
$51,300-$68,700

Because it's easy to "clone" a popular muscle car like the 1970 Chevelle Super Sport, it's important to verify the authenticity of such a muscle machine before paying top dollar. The seller of this repainted example provided numerous photos and documents proving the 402-cu.in. V-8 was factory-installed; it and the column-shift automatic may have been rebuilt, but there wasn't proof. It's believed the sub-41,000-mile odometer reading was accurate. Despite a minor rear main seal leak, the well-cared-for car was said to run and drive well, with fresh radial tires accompanying new suspension and brake components. Six videos and ample detailed photos helped the Chevy hammer for a healthy sum.

LEGEND

RESERVE: Minimum price owner will accept

SELLING PRICE*: What the vehicle sold for, inclusive of buyer's 5-percent fee (*sold as a Make Offer listing following the live auction)

RECENT MARKET RANGE: The low-to-high value range for the vehicle based on published results of similar vehicles sold at auction over the previous 18 months

1969 FORD MUSTANG

RESERVE: $70,000
SELLING PRICE: $72,975*

RECENT MARKET RANGE:
$65,100-$87,500

Smoothly integrated style was the mark of this restomodded 1969 Mustang SportsRoof, which stood out with its two-tone paint and bold, staggered-size Chip Foose wheels. The Ford ticked many boxes with a performance-built 355-hp 390-cu.in. V-8 under a shaker scoop, a Mustang II-style coilover front suspension, and upgraded power front disc brakes. Leather-trimmed SN95 Mach I bucket seats joined a floor-shifted C-6 automatic, and a Painless wiring kit ensured all electrical functions did their work, inside and out. The 15-year-old paint appeared excellent, and LED bulbs lit the taillamps. After the seller agreed to a $69,500 counteroffer, the Mustang changed hands as a Make Offer listing.

2013 CHEVROLET CAMARO SS

RESERVE: $20,000
SELLING PRICE: $25,463

RECENT MARKET RANGE:
$27,500-$42,500

The modern Camaro SS convertible is desirable in its own right, but Richard Petty's firm, Petty's Garage, made this 2SS Dusk Special Edition even more special. The 2013 Chevy had been driven a bit over 43,000 miles, but there appeared very little evidence of such. The Blue Ray Metallic paint was called "9.5 out of 10," the matching top had little wear, and the special Dusk Mojave leather upholstery was "great;" Mr. Petty even autographed the dash. The 6.2-liter V-8 had upgraded parts, was dyno'd at 348 hp, and it and the unmodified automatic ran like new. A lowered suspension and 22-inch wheels were present, but stock parts went with the car. This Camaro offered huge bang for the buck.

1970 DODGE CHALLENGER

RESERVE: $99,000
SELLING PRICE: $78,750*

RECENT MARKET RANGE:
$82,100-$115,500

This Challenger convertible rolled out of the factory in 1970 with a 318-cu.in. V-8 under its hood, but some 17 years ago, it received a mega heart upgrade in the form of a 535-cu.in. Hemi. That engine and the TorqueFlite automatic behind it were said to run and function well. Power front disc brakes, power steering, and an upgraded suspension were all on board to corral the engine. Minor paint blemishes were divulged, but reportedly there was no rust in the body; a rip in the driver's seat vinyl and a disconnected tachometer were the largest issues for the black vinyl interior. The Dodge nearly reached its low market range when it sold as a Make Offer listing.

ADVERTISERS

ADVANCED PLATING	69
AMES PERFORMANCE ENGINEERING	69
AUTOMOTIVE RACING PRODUCTS	11
BARRETT-JACKSON	7
CLASSIC INDUSTRIES	27
CLASSIC PERFORMANCE PRODUCTS	inside back cover
COKER TIRE	1
CUSTOM AUTOSOUND MFG.	17
DAKOTA DIGITAL	21
GALAXY MEDIA	39
THE GREAT RACE	51
THE HAMILTON COLLECTION	9
HEIDTS	41
HYDRO-E-LECTRIC	41
LARES CORPORATION	47
MECUM AUCTIONS	5
NANO HEARING AIDS	19
NATIONAL PARTS DEPOT	back cover
PERFORMANCE DISTRIBUTORS	43
PRIMAL MAX	15
ROTARY CLUB OF BAILEY'S CROSSROADS	49
RPM FOUNDATION	59
SUMMIT RACING EQUIPMENT	3
THERMO TEC	43
TIMEPIECES INTERNATIONAL	37
TP TOOLS	39
TRAILEX MANUFACTURING INC.	49
TRICK FLOW SPECIALTIES	inside front cover
UNIVERSAL VINTAGE TIRE	4
US RADIATORS	39
WALDRON'S EXHAUST	49

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Renewed Focus

Wherever you live in the United States, August can be a hot, sticky month. Out here in sunny SoCal, it is particularly noticeable while using our muscle machines. After a cruise on a nice clear day, my shirt is usually damp! Back in the 1920s and '30s, the Detroit automakers were more concerned with the comfort and appearance of their cars' interiors, which were constructed of mostly breathable cloth materials. Not so the factory materials in my mid-'60s GTO. The seats are heavy factory vinyl and can get pretty uncomfortable in the warmer, humid weather. I usually put a beach towel over the driver's seat to keep my shirt dry on a hot, sticky day. And I know it can get a lot worse in other parts of the country.

I can remember when changing the material in a collector car interior was a definite disqualification from being factory correct—it was a move that would automatically place your stock show vehicle into modified classes prior to show judgement. Currently, unless it is a concours show, the judges are not so strict, though they will frown heavily on such a change if you are competing in a restored class. Over the years, my vehicles have remained as stock as I could possibly keep them, so I have learned to live within the rules. As it happens, I really don't enter many shows any longer; this is mostly because, once you're in and parked, you're stuck there until the show is over and the winners have been announced. Consequently, my trophy hunting days are mostly over. Now I find that I actually enjoy displaying my car again, not having to care if I win, place, or show. And I can leave whenever I choose!

Speaking of taking a different approach, I recently made a life decision about collector cars. The most I've ever owned at once is three, usually two Pontiacs and one of some other marque just for a change of pace. Some of my friends who are also retired are always complaining about upkeep and the cost to store, register, repair, and replace parts. I was one of those complainers until I narrowed the stable down to one. It took some heavy thought to admit I am just getting too old to maintain more than one at a time. Plus, I never realized what a pleasure it is to have only one to concentrate on keeping in tip-top shape.

Now, with a new attitude about owning a collector car, I can enjoy the one I have much more, not working nearly as hard maintaining it in show condition and enjoying an occasional drive around my area. I guess sometimes one must simply consider how much time is spent keeping a vehicle show worthy rather than how much the owner can enjoy the car during simple drives around town.

As with many of you reading this, I have grown children who have been on their own for several years. This change in family status has provided me with more time to spend on other things, like repairing little stuff around the house and maintaining the family car. Only after doing this for several months did I realize just how much time I was spending on my GTO before. Just keeping the interior, engine compartment, and exterior spiffed up was a tiring endeavor. Granted, I enjoyed it, but that chore was not only time consuming, it was expensive as well. Paints, polishes, parts replacement, and what seemed like endless hours were spent on the car. I used to refer to it as a "labor of love," but to the detriment of many other things that also needed to be done. So now, I have hours back to be used on other chores rather than vehicle upkeep. It took me a while to figure it out, but the change has been worth it. Try it and see for yourself!

An old friend, who is a fan of mid-'50s Chevrolets, is going through the same life changes as me. He is always showing his '55 Chevy two-door at local events and improving it in his garage, and that keeps him busy and interested in the hobby. I think that is a major reason why we all are involved in the old-car hobby.

I have another friend with whom I worked in the magazine business for many years; he is a long-time car enthusiast and owns several cars that he has restored or modified to his liking. It has gotten to the point that he constantly is working on one car or another, and it seems that he never gets a break from this work. Just maintaining four or five hobby cars is a full-time job, not to mention the cost of the products and physical exertion required. I think I'll just stick with my '65 GTO and call it done at that. Good luck with your favorite car in the future! ■

> "I think that is a major reason why we all are involved in the old-car hobby."

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- *All Mounting Brackets, Hoses, Brake Lines & Hardware*

FOR ALL POPULAR CAR & TRUCK APPLICATIONS

FRONT KIT *starting at* **$960**/kit

12" REAR BRAKE KIT FEATURES:
- *12" Rear Cross-Drilled, Gas-Slotted & Zinc-Washed Rotors*
- *Rear Single 45mm Loaded Calipers*
- *Rear E-Brake Cables*
- *Brackets, Hoses & Brake Lines*
- *All Mounting Hardware*

REAR KIT *starting at* **$795**/kit

STOCK-TYPE UPPER & LOWER CONTROL ARMS

1964-72
CHEVELLE
shown

Ask about additional 5° caster available on upper arms for 1955-57 Chevy Fullsize applications

FEATURES:
- *Factory Correct — Precision Engineering*
- *Ball Joints & Cross Shafts*
- *Black Semi-Gloss Coated Finish*

FOR ALL POPULAR APPLICATIONS

UPPER ARMS *starting at* **$259**/pr
LOWER ARMS *starting at* **$329**/pr

FRONT & REAR COIL SPRINGS

- *High-Quality Chrome-Silicon Alloy Construction*
- *OE Fit & Black Powdercoated Finish*

FRONT OR REAR *starting at* **$129**/pr

STOCK TO 5" DROP!

ALL POPULAR APPLICATIONS

CLASSIC FIT™ NITROGEN GAS SHOCKS

- *180 PSI Nitrogen Gas Cylinders*
- *Stock or Lowered Height Style*
- *Other Popular Brands Also Available*

FRONT OR REAR *starting at* **$49**/ea

PERFORMANCE HANDLING KITS

THE UPGRADE DESIGNED FOR THE BUDGET MINDED!

KITS FEATURE:
- *1-1/8" Front & 1" Rear Sway Bars*
- *Front & Rear Gas Shocks*
- *Front & Rear Lowered Springs*
- *Mounting Hardware*

1964-66 & 1967-72 MIDSIZE APPLICATIONS

starting at **$760**/kit

COMPLETE WIRING KITS

AMERICAN AUTOWIRE

CLASSIC UPDATE SERIES:
- *Headlight, Dimmer & Ignition Switches, Boots, Tubes, Grommets, Fuses, Relays, Flashers & Original Connectors*
- *Terminals & Disconnects*
- *For All Make/Model/Year Vehicles*
- *Designed for Modified Original Vehicles -Not for OEM restoration projects*

82 SPECIFIC KITS AVAILABLE!

starting at **$675**/kit

NEW!

CPP'S PREMIUM STEERING COLUMNS

CHEVY TRI-FIVE COLUMN SHIFT *shown*

100% RE-DESIGN!

CHROME OR BLACK FINISH

FEATURES:
- *New - Tighter Tilt Mechanism*
- *New - Shift Handle & Shift Collar — Eliminating All Excess Play with More Positive Shift Points*
- *New - Improved Turn Signal & Neutral Safety Switch*
- *New - Professional Finish—Satin Black or Chrome*
- *New - Damage Free Packaging Plastic Suite Case*

ADJUSTABLE 5-WAY TILT
COLUMN OR FLOOR SHIFT

28",30",32" & 33" UNIVERSAL

UNIVERSAL FIT *starting at* **$429**/ea

PRO BUILDER'S CHOICE

1955-56-57 TRI-FIVE PREMIUM COLUMNS and Classic Fit™ PREMIUM READY TO INSTALL 1967-72 TRUCK COLUMNS *starting at* **$549**/ea

BOOSTER/MASTER CYLINDERS

Hydra STOP

HYDRAULIC ASSIST SYSTEMS

NO VACUUM? NO PROBLEM!

UP TO 1800 PSI AT THE WHEELS!

COMPLETE SYSTEM INCLUDES RUBBER BRAKE ASSIST HOSE KITS!

- *Aluminum Master Cylinder w/Prop & Stop Block Kit*
- *Billet Aluminum Mounting Bracket*
- *Pedal Rod Hardware*
- *Mounting Hardware*

BOLT-IN DIRECT

100% BRAND NEW! NOT RE-BUILT

FOR POPULAR APPLICATIONS

STREET BEAST™ SYSTEM shown *starting at* **$979**/kit

HYDRAULIC ASSIST BARE UNIT ONLY *starting at* **$579**/kit

ASK ABOUT OUR SHOW STOPPER SYSTEM!

MIDNITE SERIES

VACUUM ASSIST COMBO KITS

7"/8"/9" OR 11" DIA.

SINGLE OR DUAL BOOSTERS

MASTER CYLINDER COMBOS

- *Aluminum Corvette-Style Master Cylinder/Booster*
- *Midnite Black Finish*
- *Mounting Brackets & Hardware*

APPLICATION SPECIFIC & UNIVERSAL KITS

FIREWALL OR FRAME MOUNT APPLICATONS *starting at* **$395**/kit

POWER STEERING CONVERSION KITS

1978-87
G-BODY *shown*

100% BRAND NEW! NOT RE-BUILT

500Series

14:1 SPORT RATIO

- *Direct Bolt-In Power Steering Box & Pump*
- *Inverted Flare Hose Kit w/Pressure & Return Line*
- *Mounting Brackets & Hardware*

Kit content may vary per application

500 SERIES KITS *starting at* **$780**/kit

Bolt-on INSTALLATION

POWER BOX ONLY *starting at* **$449**/ea

COMPLETE FRONT END KITS

UPGRADE TO: POLYPLUS

POLYPLUS™
1968-70
CHEVELLE
KIT *shown*

KITS FEATURE:
- *Upper & Lower Ball Joints*
- *Inner & Outer Tie Rod Ends & Adjusting Sleeves*
- *Idler Arm or Idler Arm Bushing*
- *Upper & Lower Polyplus™ or Rubber Control Arm Bushings with Bump Stops*

Sway bar bushings & end links sold separately.

RUBBER KITS *starting at* **$425**/kit
POLYPLUS KITS *starting at* **$448**/kit

STEERING LINKAGE KITS

FOR POPULAR APPLICATIONS

BASIC KITS INCLUDE
- *Center-Link*
- *Idler Arm*
- *Pitman Arm*

COMPLETE KITS SHOWN **ALSO INCLUDE**
- *Inner/Outer Tie Rod Ends*
- *Billet Sleeves*

BASIC KIT *starting at* **$294**/kit
COMPLETE KIT *starting at* **$359**/kit

FRONT & REAR SWAY BAR KITS

STANDARD OR HEAVY DUTY

Shown with billet upgrades

FOR ALL POPULAR APPLICATIONS

- *Work with Both Stock & Tubular Arms*

FRONT STOCK-SUSPENSION KITS *starting at* **$236**/kit
REAR STOCK-SUSPENSION KITS *starting at* **$238**/kit

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**Prices subject to change without notice, please inquire. ★ = estimated at prices due to current rapidly changing costs. Also, please note that kits and prices may vary between certain applications.*

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